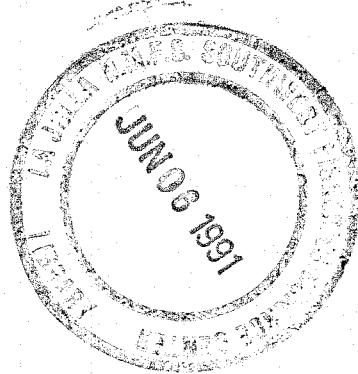


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JUNE 1990



**REPORT OF A MARINE MAMMAL SURVEY OF THE EASTERN
TROPICAL PACIFIC ABOARD THE RESEARCH VESSEL**

McARTHUR JULY 29-DECEMBER 7, 1989

P. Scott Hill
Alan Jackson
Tim Gerrodette

NOAA-TM-NMFS-SWFC-143

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center

NOAA Technical Memorandum NMFS

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REPORT OF A MARINE MAMMAL SURVEY OF THE EASTERN TROPICAL PACIFIC
ABOARD THE RESEARCH VESSEL McARTHUR
JULY 29 - DECEMBER 7, 1989

P. Scott Hill
Alan Jackson
and
Tim Gerrodette

In 1984, as a result of an amendment to the Marine Mammal Protection Act of 1972, the National Marine Fisheries Service (NMFS) was mandated to conduct a research program to monitor trends in the abundance of stocks of dolphins in the eastern tropical Pacific (ETP). These dolphins are killed incidentally during fishing operations by the U. S. purse seine fishery for yellowfin tuna (Thunnus albacares). In 1986, the Southwest Fisheries Center (SWFC) of the NMFS initiated a six-year program to monitor these stocks of dolphins. In the first three years of the program (1986 through 1988), two surveys of marine mammal populations in the ETP were conducted concurrently each year aboard the National Oceanic and Atmospheric Administration vessels David Starr Jordan and McArthur. The surveys lasted 120 days each. In 1989, the fourth pair of surveys was conducted during the same time period and using the same vessels.

In this report, we describe the experimental procedures used during the 1989 surveys and we present summaries of the distance searched and marine mammals encountered from aboard the McArthur (Cruise AR-89-03; SWFC Observer Cruise 1268). A separate report of the David Starr Jordan cruise has been published by Hill et al. (1990). A report of environmental data collected during the survey is reported by Lierheimer et al. (1990).

SURVEY OBJECTIVES

The primary objective of the cruise was to collect information to calculate relative abundance of dolphin species in the ETP that are taken incidentally by the purse seine fishery for yellowfin tuna. Specific objectives were to collect information to:

1. estimate school density, school size, and species composition of each species taken by the fishery;
2. investigate the physical and biological environment of the affected species; and
3. contribute to on-going U.S. and international programs investigating oceanography and ocean-atmosphere interactions in the ETP.

MATERIALS AND METHODS

Study Area and Itinerary

The McArthur traversed predetermined tracklines in the ETP from July 29 through December 7, 1989 (Figure 1), with port calls in Hilo, Hawaii; La Libertad, Ecuador; and Puerto Caldera, Costa Rica. The itinerary of the vessel included four segments or effort legs:

Leg 1.

| | | |
|----------|-----------|-----------|
| Departed | San Diego | July 29 |
| Arrived | Hilo | August 26 |

Leg 2.

| | | |
|----------|-------------|--------------|
| Departed | Hilo | August 31 |
| Arrived | La Libertad | September 30 |

Leg 3.

| | | |
|----------|----------------|------------|
| Departed | La Libertad | October 5 |
| Arrived | Puerto Caldera | November 3 |

Leg 4.

| | | |
|----------|----------------|------------|
| Departed | Puerto Caldera | November 8 |
| Arrived | San Diego | December 7 |

The McArthur also conducted bird censuses on the Archipelago de Colon (Ecuador) and on Isla del Coco (Costa Rica).

Scientific Personnel

Cruise Leaders

| | |
|------------------------------|-----|
| Elizabeth Edwards, SWFC | 1,4 |
| Scott Hill, NOAA Corps, SWFC | 2-3 |

Identification Specialists

| | |
|-------------------------|-----|
| Scott Benson, SWFC | 1-2 |
| Richard LeDuc, SWFC | 1-2 |
| Gary Friedrichsen, SWFC | 3-4 |
| Scott Sinclair, SWFC | 3-4 |

Observers

| | |
|-----------------------|-----|
| James Carretta, SWFC | 1-2 |
| James Cotton, SWFC | 1-2 |
| Carrie Fried, SWFC | 1-2 |
| Richard Rowlett, SWFC | 1-2 |

| | |
|------------------------|-----|
| Sallie Beavers, SWFC | 3-4 |
| William Irwin, SWFC | 3-4 |
| Susan Kruse, SWFC | 3-4 |
| Brian Smith, SWFC | 3-4 |
| Monica Echegaray, Peru | 3 |

Bird Census Specialists

| | |
|-----------------------------|-----|
| Donald Roberson, Contractor | 1-4 |
| Robin Roberson, Contractor | 1-4 |

Oceanographic data were collected by the McArthur survey department personnel.

Marine Mammal Species Surveyed

During the survey, the observers recorded information on all species of whales and dolphins sighted throughout the cruise. However, encounter rates are presented only for dolphin species.

Equipment

The McArthur, commissioned in 1966, is 53.3 m in length, has a beam of 11.6 m, and has a 3.7 m draft. During the surveys, the vessel maintained a cruising speed of approximately 18.5 km/hr.

Several pieces of equipment were used to gather data. The geographic position of the vessel was recorded periodically and at the time of a marine mammal sighting using the vessel's Satellite Navigation System (SAT NAV). Marine mammals were detected with port and starboard pedestal mounted 25X Fuginon¹ binoculars and a variety of hand-held 7-50X binoculars. The glasses were mounted on the upper deck approximately 10.7 m above the sea surface. Surface temperature and salinity, fluorescence (chlorophyll), and temperature-depth profiles were obtained using a thermosalinograph, fluorometer, and expendable bathythermographs (XBTs), respectively. Discrete conductivity and temperature-depth profiles were also obtained using conductivity-temperature-depth (CTD) probes.

The bearing and radial distances of marine mammals from the vessel were calculated using two methods. The first method was the use of estimates of the bearing and radial distance of a school from the vessel, which were recorded by the observers using a 360° graduated washer attached to the base of the 25X binoculars and graduated reticles enclosed in the right eyepiece of the binoculars.

¹Reference to trade name does not imply endorsement by the NMFS.

The second method utilized the Computer Assisted Sighting Technology (CAST) system which used information from several sensors to measure sighting angles and then to calculate radial distances. A CAMAC¹ computer collected data from various sources: the vessel's course from the gyroscope; the electronically encoded train angles of the 25X binoculars; a measurement of the relative motion of the vessel from a pitch-roll sensor; speed from the speed log; and information concerning survey status, such as identification of observers occupying survey positions from data pads located on the flying bridge. An IBM-compatible computer, which was interfaced with the CAMAC, was then used to process information to determine the sighting angle to the cue. Successive sighting angles, recorded as the vessel traveled along the trackline, were used to calculate radial distances. Analyses of CAST data will be presented in a separate report.

A 35 mm F-1 Canon¹ camera with motor drive was used to photograph animals to aid in stock and species identification. The system included 400 mm, 70-210 mm zoom, 50 mm, and 28 mm lenses. Some observers also used personal camera equipment to photograph sightings. Animals were also recorded on 1.27 cm video tape using a Panasonic¹ VHS recorder and a Panasonic¹ camera equipped with telephoto lens.

Duty Stations

Three duty stations were used during the survey, with observers rotating through each station.

1. Left Binocular - The port-side observer used a 25X binocular, mounted on the port side of the vessel, to scan the ocean for marine mammal sighting cues. The major area of responsibility for this observer was from the midpoint of the trackline to abeam the port side of the vessel and outward to the horizon or to the extent possible with prevailing environmental conditions.
2. Right Binocular - The starboard observer used a 25X binocular, mounted on the starboard side of the vessel, to search from the midpoint of the trackline to abeam the starboard side of the vessel, and outward to the horizon or to the extent possible with prevailing environmental conditions. Observers in the left and right positions frequently searched up to 10° on the opposite side of the trackline.
3. Recorder - The recorder's duties were to transcribe effort data at regular intervals, to make notes of information pertaining to each sighting, and to search the trackline adjacent to the vessel with hand held binoculars for schools not detected by the observers on the 25X glasses.

Observer Teams and Rotation

Two teams of three observers each alternately occupied the three duty stations. Each team was on duty for a two-hour shift. During each shift, observers spent approximately equal time occupying each duty station. Teams alternated standing the first watch of the day.

Two of the six observers, one on each team, were experts in identifying marine mammals. Team composition remained constant during the entire survey. Team members rotated between the duty stations and teams rotated on and off duty without interrupting searching effort. Observers aboard the Jordan and McArthur switched vessels after the second leg, allowing school size estimates for all observers to be calibrated with the ship-based helicopter on the Jordan.

Data Collection Procedures

A typical day's searching activity began at sunrise, approximately 0630 hours local time, and ended at sunset, approximately 1830 hours local time. The searching procedure was initiated when observers were occupying the duty stations and a recorder was in place to record information on the Research Vessel Effort Form (Figure 2). Except for approximately two to three hours per night when oceanographic data were collected, the vessel maintained its speed and course between sunset and sunrise to provide wider spatial distribution of searching effort. On approximately two-thirds of the nights, the McArthur was forced to steam at a slightly reduced speed in order to conserve fuel.

When a sighting cue (marine mammals, birds, splashes, etc.) was detected, it was determined whether marine mammals were present and if the sighting was appropriate for tracking using the CAST system. Schools that were not tracked included whales, dolphins detected close to the vessel or at distances greater than 5.6 km lateral to the vessel, small schools of dolphins (<15 animals), and schools detected during poor sighting conditions. If tracking was appropriate, the searching effort was terminated and the observer initiated tracking by turning on a switch attached to the binocular stand. With the vessel maintaining course and speed, and with the school in the field of view of the binoculars, the CAST system recorded successive bearings from the vessel to the animals. After approximately 8 minutes the vessel was directed towards the school and the tracking sequence continued for another 8 minutes. When the target was not in the field of view, the switch was turned off until the target was again sighted. The tracking procedure was terminated if the target was lost from view and not resighted, or if the cue was found to be inappropriate for tracking. All marine mammal schools, when possible, were approached to obtain estimates of school size and species composition. The searching mode was

resumed after the vessel returned to its original course and speed and the observers resumed searching for other sighting cues.

During each marine mammal sighting, the recorder collected data necessary to complete Research Vessel Effort and Research Vessel Sighting forms (Figure 3). Definition of each data element is given by Ralston². Criteria for assigning sun position and sea state conditions are given in Figure 4 and Table 1, respectively. Observers recorded bearing and range to the mammals using the 360° washer and reticles etched into the right eyepieces of the 25 power binoculars. The reticle measurements were converted to km using

$$a = 0.003942 \tan (\arctan (45242.52) - 0.001088 r),$$

where a equals radial distance in km and r denotes the number of reticles below the topmost reticle. Values in this equation were calculated by Barlow (per. comm.) using an equation presented by Smith (1982) and data collected during previous research vessel cruises.

Each observer who had a good view of the school independently recorded in his or her logbook high, low and best estimates of school size and a determination of species composition. At no time were the observers allowed to discuss their estimates of school size and species composition. This procedure assured independence and consistency of each observer's data, and will allow individual correction factors to be developed from aerial photographs. On a daily basis, the Cruise Leader (chief of the scientific party on the vessel) collected the individual logbooks and transcribed observer estimates of school size and species composition to complete the Research Vessel Sighting Forms.

However, all available observers did discuss species identification and animal behavior, and a consensus was entered on the Research Vessel Sighting and Research Vessel Continuation Forms (Figure 5) shortly after the time of a sighting. Species identifications were validated when possible by photographing the school at close range using 35 mm and video cameras.

Data Analyses

Sea state conditions were grouped into "calm" conditions, without whitecaps (Beaufort numbers 0-2), or "rough" conditions, with whitecaps (Beaufort numbers 3-6). The presence of whitecaps was important in searching for sighting cues. Animal splashes could not effectively be used as a sighting cue during rough seas because whitecaps were easily confused with the animal splashes.

²Ralston, F. Ms. Usage procedures and coding notes for research vessel sighting and effort records. Southwest Fisheries Center. P.O. Box 271, La Jolla, CA. 92038.

Visibility conditions were classified into "good" and "poor" categories. Poor visibility conditions were recorded when horizontal sun position was 12 and vertical position was 1, 2, or 3, or when there were clouds together with fog or rain (Holt 1987). All other conditions were good conditions.

The study area was divided into four strata, with the sum of the four strata comprising the total study area (Figure 1). The sum of the three northern most strata (inshore, middle and west) constitutes the northern stratum and represents the range of the northern offshore stock of spotted dolphins (the species most impacted by the purse-seine fishery). Data were analyzed using information by stratum, summed over strata and pooled over strata.

The rate of encountering marine mammal schools was determined as the simple ratio of sightings detected per 1000 km searched. The variance of the encounter rate was calculated as

$$\text{Var}(n/L) = [\sum l_i [(n_i/l_i) - (n/L)]^2]/L(R - 1)$$

where n equals the number of dolphin schools detected in the survey, L equals total thousands of km searched, l_i equals thousands of km searched during the i th day, n_i equals schools detected during the i th day, and R equals number of days searched.

Encounter rates were calculated for all dolphin schools that were detected during Beaufort states 0 through 6. Rates were calculated for these schools detected in the entire study area and for schools stratified by area, species, individual Beaufort numbers, calm and rough sea conditions, good and poor sun conditions, individual observers, and observer teams.

RESULTS

Data describing each leg of searching effort during the entire survey are summarized in Table 2. Information summarized for each marine mammal sighting encountered during the survey is presented in Table 3. The geographic positions of all schools detected during the survey are presented for each species category (code) in Figures 6 through 19. Observer estimates of school size are presented by species and subspecies in Table 4.

During the entire survey, observers searched 14,753 km and made 500 marine mammal sightings (Table 5). Dolphins were detected in 276 schools and whales were detected in 202 schools (22 schools contained both dolphins and whales). These included 13 species of dolphins and 17 species of whales.

Searching effort was conducted during Beauforts 0 through 6 conditions. Generally, effort was terminated shortly after the seas and wind attained a force of Beaufort 6, though at times Beaufort 6 conditions were workable. Effort was terminated at the discretion of the team leader and the cruise leader. While operating in the searching mode in the study area (Figure 1), 14,302 km were searched and 254 dolphin schools were detected. The overall rate of detecting schools in the study area was 17.76 schools/1000 km searched (Table 6).

Searching effort of the McArthur was distributed among all four strata, with the highest percentage of effort (34%) occurring in the southern area (Table 6). The detection rates in the southern and middle strata were similar. The detection rate was lowest in the western area (Table 6).

Sea conditions in the study area were extremely rough. Only 5% of the searching effort was completed in calm seas (Table 6). However, 9% of all schools were detected during calm seas and the rate of detecting schools during calm seas was nearly two times the detection rate during rough seas.

Poor visibility conditions occurred only during 11% of the surveying effort, during which time 11% of the schools were detected (Table 6). It seems that visibility conditions had little effect on sighting dolphin schools as the rates of detecting schools during good conditions and poor conditions were very similar.

The percent of schools detected by individual mammal observers ranged from 4 to 12% (Table 6). Observer #72, a cruise leader who stood watches for sick observers, had a detection rate of zero (due to rounding). However, his detection rate cannot be justly compared to the other observers due to the limited time spent on the binoculars. The rates of detecting dolphin schools also varied considerably among observers (range of 2.82 to 8.16 schools/1000 km).

The percent of schools detected by teams ranged from 20 to 28% (Table 6). The rate of detecting schools by teams ranged from 15.72 to 20.98 schools/1000 km searched.

SUMMARY

In this report, we have presented data on dolphin encounter rates, school size, and species composition which meet the primary objectives of the cruise aboard the McArthur. Data on effort and sightings have been summarized. We found that the rate of encountering dolphin schools was higher during calm seas than during rough seas, and the rate during good visibility conditions

was similar to the rate during poor visibility conditions. Detection rates were highest in the southern area and lowest in the western area. Encounter rates among observers and among teams were variable.

ACKNOWLEDGMENTS

The cruise aboard the NOAA Ship McArthur was successfully executed due to the work of many dedicated professionals. Among those contributing to the success of the cruise were the observers who spent many hours collecting the data, the officers and crew of the McArthur who gave their continuous support, and J. Bortniak (Jordan Port Captain) who provided liaison with ship support personnel and the scientists. Special efforts were provided in procurement by B. Engstrand and B. Watkins. Part of the manuscript was typed by C. Ratcliffe and arranged by R. Allen. R. Rasmussen edited the effort and sightings data. We are grateful to I. Barrett, R. Neal, D. DeMaster, R. Holt, and B. Remington for their support during the entire cruise preparation and execution. Finally, special recognition is given to S. Sexton for critical logistical arrangements, technical support, and invaluable insights given to the authors.

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Table 1. Sea state conditions measured by the Beaufort scale (from Bowditch, 1966).

| Wind force (Beaufort) | Knots | Descriptive | Sea Conditions | Probable wave height in feet |
|--------------------------|-------|-----------------|---|---------------------------------|
| 0 | 0- 1 | Calm | Sea smooth and mirror-like | - |
| 1 | 1- 3 | Light air | Scale-like ripple without foam crests | 1/4 |
| 2 | 4- 6 | Light breeze | Small short wavelets; crests have a glassy appearance and do not break | 1/2 |
| 3 | 7-10 | Gentle breeze | Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests | 2 |
| 4 | 11-16 | Moderate breeze | Small waves, becoming longer; fairly frequent white foam crests | 4 |
| 5 | 17-21 | Fresh breeze | Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray | 6 |
| 6 | 22-27 | Strong breeze | Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray | 10 |

Table 2. Daily searching effort recorded in the eastern tropical Pacific aboard the McArthur during July 29 through December 7, 1989.

| series | leg | date | speed km/hr | observer codes | sun position horiz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|-------------------|------------------------------|---------------|------------------|--------------------------------|--------------|
| 01 | 01 | 890730 | 19.45 | 67 | 07 | 56 | 03 | 02 | 6.16 |
| 01 | 02 | 890730 | 19.45 | 67 | 07 | 56 | 03 | 02 | 1.30 |
| 01 | 03 | 890730 | 19.45 | 67 | 07 | 56 | 03 | 02 | 2.27 |
| 01 | 04 | 890730 | 19.45 | 07 | 56 | 67 | 03 | 02 | 9.72 |
| 01 | 05 | 890730 | 19.45 | 56 | 67 | 07 | 03 | 02 | 8.10 |
| 01 | 06 | 890730 | 19.45 | 56 | 67 | 07 | 03 | 02 | 1.62 |
| 01 | 07 | 890730 | 19.45 | 71 | 73 | 55 | 03 | 02 | 11.34 |
| 01 | 08 | 890730 | 19.45 | 73 | 55 | 71 | 04 | 03 | 5.83 |
| 01 | 09 | 890730 | 19.45 | 73 | 55 | 71 | 04 | 03 | 5.51 |
| 01 | 10 | 890730 | 19.45 | 55 | 71 | 73 | 04 | 03 | 11.34 |
| 01 | 11 | 890730 | 19.45 | 71 | 73 | 55 | 04 | 03 | 5.83 |
| 01 | 12 | 890730 | 19.45 | 71 | 73 | 55 | 03 | 02 | 1.62 |
| 01 | 13 | 890730 | 19.45 | 71 | 73 | 55 | 03 | 02 | 0.32 |
| 01 | 01 | 890731 | 19.45 | 56 | 67 | 07 | 09 | 03 | 11.67 |
| 01 | 02 | 890731 | 19.45 | 67 | 07 | 56 | 09 | 03 | 11.67 |
| 02 | 01 | 890731 | 19.45 | 07 | 56 | 67 | 09 | 02 | 2.92 |
| 02 | 02 | 890731 | 19.45 | 07 | 56 | 67 | 09 | 02 | 2.92 |
| 02 | 03 | 890731 | 19.45 | 55 | 71 | 73 | 09 | 02 | 3.24 |
| 03 | 01 | 890731 | 19.45 | 71 | 73 | 55 | 09 | 02 | 6.81 |
| 03 | 02 | 890731 | 19.45 | 73 | 55 | 71 | 09 | 02 | 5.19 |
| 03 | 03 | 890731 | 19.45 | 73 | 55 | 71 | 09 | 02 | 12.96 |
| 03 | 04 | 890731 | 19.45 | 73 | 55 | 71 | 09 | 02 | 12.64 |
| 03 | 05 | 890731 | 19.45 | 67 | 07 | 56 | 10 | 01 | 11.99 |
| 03 | 06 | 890731 | 19.45 | 67 | 07 | 56 | 10 | 01 | 0.97 |
| 03 | 07 | 890731 | 19.45 | 07 | 56 | 67 | 10 | 01 | 12.96 |
| 03 | 08 | 890731 | 19.45 | 55 | 71 | 73 | 11 | 01 | 6.81 |
| 04 | 01 | 890731 | 19.45 | 71 | 73 | 55 | 12 | 12 | 2.92 |
| 04 | 02 | 890731 | 19.45 | 73 | 55 | 71 | 02 | 12 | 12.64 |
| 04 | 03 | 890731 | 19.45 | 56 | 67 | 07 | 01 | 04 | 11.99 |
| 04 | 04 | 890731 | 19.45 | 56 | 67 | 07 | 02 | 04 | 12.96 |
| 04 | 05 | 890731 | 19.45 | 67 | 07 | 56 | 03 | 01 | 6.48 |
| 04 | 06 | 890731 | 19.45 | 07 | 56 | 67 | 04 | 01 | 6.48 |
| 04 | 07 | 890731 | 19.45 | 55 | 71 | 73 | 04 | 02 | 12.96 |
| 04 | 08 | 890731 | 19.45 | 71 | 73 | 55 | 04 | 02 | 9.40 |
| 05 | 01 | 890731 | 19.45 | 73 | 55 | 71 | 04 | 02 | 9.07 |
| 05 | 02 | 890731 | 19.45 | 56 | 67 | 07 | 02 | 04 | 11.34 |
| 05 | 03 | 890731 | 19.45 | 56 | 67 | 07 | 03 | 04 | 0.32 |
| 05 | 04 | 890731 | 19.45 | 67 | 07 | 56 | 04 | 03 | 10.37 |
| 05 | 05 | 890731 | 19.45 | 07 | 56 | 67 | 04 | 03 | 1.30 |
| 05 | 06 | 890731 | 19.45 | 73 | 55 | 71 | 08 | 03 | 1.30 |
| 01 | 01 | 890801 | 19.45 | 73 | 55 | 71 | 08 | 03 | 1.30 |
| 01 | 02 | 890801 | 19.45 | 55 | 71 | 73 | 09 | 03 | 3.89 |
| 01 | 03 | 890801 | 19.45 | 55 | 71 | 73 | 08 | 02 | 5.83 |
| 02 | 01 | 890801 | 19.45 | 71 | 73 | 55 | 08 | 02 | 12.64 |
| 03 | 01 | 890801 | 19.45 | 07 | 56 | 67 | 08 | 02 | 10.70 |
| 03 | 02 | 890801 | 19.45 | 56 | 67 | 07 | 09 | 02 | 6.48 |
| 03 | 03 | 890801 | 19.45 | 67 | 07 | 56 | 07 | 09 | 02 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | | | sun position no. | beauf. no. | course (deg.) | position latitude | longitude | km in leg | |
|--------|-----|--------|----------------|----------------|-------|------|-------|---------------------|---------------|------------------|----------------------|-----------|--------------|-------|
| | | | | left | right | rec. | horz. | | | | | | | |
| 03 | 04 | 890801 | 19.45 | 67 | 56 | 09 | 01 | 3 | 182 | 22 | 18 n | 115 56 w | 4.86 | |
| 03 | 05 | 890801 | 19.45 | 73 | 71 | 09 | 01 | 3 | 182 | 21 | 32 n | 115 56 w | 9.07 | |
| 03 | 06 | 890801 | 19.45 | 73 | 55 | 09 | 01 | 4 | 182 | 21 | 27 n | 115 59 w | 3.89 | |
| 03 | 07 | 890801 | 19.45 | 55 | 71 | 09 | 01 | 4 | 182 | 21 | 54 n | 115 56 w | 12.96 | |
| 03 | 08 | 890801 | 19.45 | 71 | 55 | 09 | 01 | 4 | 182 | 21 | 54 n | 115 56 w | 12.96 | |
| 03 | 09 | 890801 | 19.45 | 07 | 56 | 67 | 07 | 12 | 4 | 182 | 21 | 16 n | 115 59 w | 12.96 |
| 03 | 10 | 890801 | 19.45 | 56 | 67 | 07 | 56 | 03 | 12 | 4 | 182 | | 8.10 | |
| 03 | 11 | 890801 | 19.45 | 67 | 07 | 56 | 03 | 12 | 4 | 182 | | | 4.86 | |
| 03 | 12 | 890801 | 19.45 | 67 | 07 | 56 | 03 | 01 | 4 | 182 | 21 | 10 n | 115 59 w | 7.45 |
| 03 | 13 | 890801 | 19.45 | 73 | 55 | 71 | 02 | 01 | 5 | 182 | 20 | 40 n | 116 00 w | 9.72 |
| 04 | 01 | 890801 | 19.45 | 55 | 71 | 73 | 03 | 01 | 5 | 180 | 21 | 05 n | 115 59 w | 12.32 |
| 04 | 02 | 890801 | 19.45 | 71 | 73 | 55 | 03 | 01 | 5 | 180 | 20 | 59 n | 115 59 w | 4.54 |
| 05 | 01 | 890801 | 19.45 | 07 | 56 | 67 | 03 | 01 | 4 | 180 | 21 | 16 n | 115 59 w | 7.45 |
| 05 | 02 | 890801 | 19.45 | 07 | 56 | 67 | 03 | 02 | 4 | 180 | 21 | 48 n | 115 59 w | 2.27 |
| 05 | 03 | 890801 | 19.45 | 67 | 07 | 56 | 03 | 02 | 4 | 180 | 20 | 43 n | 116 00 w | 1.94 |
| 05 | 04 | 890801 | 19.45 | 56 | 67 | 07 | 03 | 02 | 4 | 180 | 20 | 40 n | 115 59 w | 0.32 |
| 05 | 05 | 890801 | 19.45 | 67 | 07 | 56 | 03 | 02 | 4 | 180 | 19 | 50 n | 115 39 w | 4.21 |
| 05 | 06 | 890801 | 19.45 | 55 | 71 | 73 | 03 | 03 | 4 | 180 | | | 6.48 | |
| 06 | 01 | 890801 | 19.45 | 55 | 71 | 73 | 03 | 03 | 4 | 180 | 19 | 47 n | 115 35 w | 4.86 |
| 06 | 02 | 890802 | 19.45 | 55 | 71 | 73 | 03 | 03 | 3 | 125 | 19 | 47 n | 115 31 w | 2.27 |
| 06 | 03 | 890802 | 19.45 | 71 | 73 | 55 | 03 | 03 | 3 | 125 | 19 | 47 n | 115 31 w | 1.94 |
| 06 | 04 | 890802 | 19.45 | 07 | 56 | 67 | 10 | 03 | 3 | 125 | 19 | 47 n | 115 31 w | 0.32 |
| 06 | 05 | 890802 | 19.45 | 07 | 56 | 67 | 10 | 03 | 3 | 125 | 19 | 47 n | 115 31 w | 8.75 |
| 01 | 01 | 890802 | 19.45 | 67 | 07 | 56 | 03 | 02 | 4 | 125 | 19 | 44 n | 115 26 w | 13.94 |
| 01 | 02 | 890802 | 19.45 | 67 | 07 | 56 | 03 | 02 | 4 | 125 | 19 | 37 n | 115 16 w | 3.89 |
| 01 | 03 | 890802 | 19.45 | 07 | 56 | 67 | 10 | 02 | 4 | 125 | 19 | 31 n | 115 06 w | 3.24 |
| 02 | 01 | 890802 | 19.45 | 07 | 56 | 67 | 10 | 02 | 4 | 125 | 19 | 31 n | 115 06 w | 8.10 |
| 02 | 02 | 890802 | 19.45 | 56 | 67 | 07 | 10 | 02 | 4 | 125 | 19 | 20 n | 114 47 w | 4.86 |
| 02 | 03 | 890802 | 19.45 | 71 | 73 | 55 | 10 | 02 | 4 | 128 | 19 | 18 n | 114 37 w | 2.27 |
| 02 | 04 | 890802 | 19.45 | 73 | 55 | 71 | 10 | 02 | 4 | 130 | 19 | 14 n | 114 32 w | 7.13 |
| 02 | 05 | 890802 | 19.45 | 73 | 55 | 71 | 10 | 02 | 4 | 130 | 19 | 14 n | 114 32 w | 4.86 |
| 02 | 06 | 890802 | 19.45 | 73 | 55 | 71 | 10 | 02 | 4 | 125 | 19 | 13 n | 115 06 w | 3.24 |
| 02 | 07 | 890802 | 19.45 | 55 | 71 | 73 | 10 | 02 | 4 | 125 | 19 | 13 n | 115 06 w | 2.27 |
| 02 | 08 | 890802 | 19.45 | 55 | 71 | 73 | 10 | 02 | 4 | 125 | 19 | 12 n | 114 47 w | 8.10 |
| 02 | 09 | 890802 | 19.45 | 67 | 71 | 56 | 11 | 01 | 4 | 125 | 19 | 11 n | 114 37 w | 4.86 |
| 02 | 10 | 890802 | 19.45 | 67 | 07 | 56 | 11 | 01 | 4 | 125 | 19 | 10 n | 114 32 w | 12.96 |
| 02 | 11 | 890802 | 19.45 | 07 | 56 | 67 | 11 | 01 | 4 | 125 | 19 | 9 n | 114 17 w | 1.62 |
| 02 | 12 | 890802 | 19.45 | 56 | 67 | 07 | 12 | 01 | 4 | 128 | 18 | 54 n | 114 12 w | 7.13 |
| 03 | 01 | 890802 | 19.45 | 71 | 73 | 55 | 12 | 01 | 4 | 128 | 18 | 51 n | 114 06 w | 4.86 |
| 03 | 02 | 890802 | 19.45 | 71 | 73 | 55 | 11 | 01 | 4 | 130 | 18 | 48 n | 114 03 w | 5.83 |
| 04 | 01 | 890802 | 19.45 | 73 | 55 | 71 | 05 | 01 | 4 | 130 | 18 | 45 n | 113 59 w | 6.81 |
| 04 | 02 | 890802 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 130 | 18 | 37 n | 113 59 w | 1.94 |
| 04 | 03 | 890802 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 130 | 18 | 31 n | 113 06 w | 8.43 |
| 04 | 04 | 890802 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 130 | 18 | 20 n | 114 47 w | 2.59 |
| 05 | 01 | 890802 | 19.45 | 71 | 73 | 55 | 11 | 01 | 4 | 127 | 18 | 18 n | 114 37 w | 5.83 |
| 06 | 02 | 890802 | 19.45 | 73 | 55 | 71 | 05 | 02 | 3 | 127 | 18 | 14 n | 114 32 w | 6.81 |
| 06 | 03 | 890802 | 19.45 | 67 | 07 | 56 | 05 | 02 | 3 | 127 | 18 | 12 n | 114 03 w | 1.94 |
| 07 | 04 | 890802 | 19.45 | 56 | 67 | 07 | 05 | 02 | 3 | 127 | 18 | 5 n | 112 59 w | 8.43 |
| 07 | 05 | 890803 | 19.45 | 55 | 71 | 73 | 10 | 03 | 3 | 126 | 17 | 56 n | 112 56 w | 3.89 |
| 01 | 01 | 890803 | 19.45 | 55 | 71 | 73 | 10 | 03 | 3 | 126 | 17 | 56 n | 112 56 w | 7.13 |
| 02 | 02 | 890803 | 19.45 | 55 | 71 | 73 | 10 | 03 | 3 | 126 | 17 | 56 n | 112 56 w | 3.89 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------------------------|---------------|------------------|----------------------|-----------------------|--------------|
| 01 | 03 | 890803 | 19.45 | 71 | 73 | 55 | 10 | 03 | 3 | 126 |
| 01 | 04 | 890803 | 19.45 | 73 | 55 | 71 | 10 | 03 | 3 | 126 |
| 01 | 05 | 890803 | 19.45 | 56 | 67 | 07 | 10 | 02 | 3 | 126 |
| 01 | 06 | 890803 | 19.45 | 56 | 67 | 07 | 56 | 07 | 2 | 126 |
| 01 | 07 | 890803 | 19.45 | 07 | 56 | 67 | 07 | 01 | 3 | 126 |
| 01 | 08 | 890803 | 19.45 | 07 | 56 | 67 | 10 | 01 | 2 | 126 |
| 01 | 09 | 890803 | 19.45 | 55 | 71 | 55 | 10 | 01 | 3 | 126 |
| 02 | 01 | 890803 | 19.45 | 71 | 73 | 55 | 10 | 01 | 3 | 126 |
| 02 | 02 | 890803 | 19.45 | 71 | 73 | 55 | 07 | 01 | 3 | 232 |
| 02 | 03 | 890803 | 19.45 | 71 | 73 | 55 | 07 | 01 | 3 | 232 |
| 02 | 04 | 890803 | 19.45 | 73 | 55 | 71 | 08 | 01 | 3 | 232 |
| 03 | 01 | 890803 | 19.45 | 56 | 67 | 07 | 12 | 02 | 2 | 232 |
| 03 | 02 | 890803 | 19.45 | 67 | 07 | 56 | 12 | 02 | 3 | 232 |
| 04 | 01 | 890803 | 19.45 | 07 | 56 | 67 | 01 | 01 | 2 | 233 |
| 05 | 01 | 890803 | 19.45 | 55 | 71 | 73 | 01 | 01 | 3 | 235 |
| 05 | 02 | 890803 | 19.45 | 71 | 73 | 55 | 01 | 01 | 2 | 235 |
| 05 | 03 | 890803 | 19.45 | 73 | 55 | 71 | 08 | 01 | 3 | 235 |
| 05 | 04 | 890803 | 19.45 | 56 | 67 | 07 | 12 | 02 | 2 | 235 |
| 05 | 05 | 890803 | 19.45 | 56 | 67 | 07 | 01 | 02 | 2 | 235 |
| 05 | 06 | 890803 | 19.45 | 56 | 67 | 07 | 02 | 02 | 2 | 235 |
| 05 | 07 | 890803 | 19.45 | 07 | 56 | 67 | 02 | 02 | 2 | 235 |
| 05 | 08 | 890803 | 19.45 | 55 | 71 | 73 | 01 | 01 | 2 | 235 |
| 06 | 01 | 890803 | 19.45 | 71 | 73 | 55 | 02 | 02 | 2 | 235 |
| 06 | 02 | 890803 | 19.45 | 71 | 73 | 55 | 02 | 03 | 2 | 235 |
| 06 | 03 | 890803 | 19.45 | 71 | 73 | 55 | 02 | 03 | 2 | 235 |
| 06 | 04 | 890803 | 19.45 | 71 | 73 | 55 | 02 | 03 | 2 | 235 |
| 06 | 05 | 890803 | 19.45 | 71 | 73 | 55 | 02 | 03 | 2 | 235 |
| 06 | 06 | 890803 | 19.45 | 07 | 56 | 67 | 02 | 02 | 2 | 235 |
| 06 | 07 | 890804 | 19.45 | 07 | 56 | 67 | 01 | 02 | 2 | 236 |
| 06 | 08 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 03 | 2 | 236 |
| 06 | 09 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 03 | 2 | 236 |
| 07 | 01 | 890804 | 19.45 | 55 | 71 | 73 | 01 | 02 | 2 | 236 |
| 07 | 02 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 03 | 2 | 236 |
| 07 | 03 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 03 | 2 | 236 |
| 07 | 04 | 890804 | 19.45 | 56 | 67 | 07 | 07 | 03 | 2 | 236 |
| 07 | 05 | 890804 | 19.45 | 67 | 07 | 56 | 07 | 03 | 2 | 236 |
| 07 | 06 | 890804 | 19.45 | 73 | 55 | 71 | 07 | 02 | 3 | 236 |
| 07 | 07 | 890804 | 19.45 | 55 | 71 | 73 | 07 | 02 | 3 | 236 |
| 07 | 08 | 890804 | 19.45 | 55 | 71 | 73 | 07 | 02 | 3 | 236 |
| 07 | 09 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 01 | 2 | 236 |
| 08 | 01 | 890804 | 19.45 | 55 | 71 | 73 | 01 | 02 | 2 | 236 |
| 08 | 02 | 890804 | 19.45 | 71 | 73 | 55 | 01 | 02 | 2 | 236 |
| 08 | 03 | 890804 | 19.45 | 71 | 73 | 55 | 01 | 01 | 2 | 236 |
| 08 | 04 | 890804 | 19.45 | 73 | 55 | 71 | 07 | 01 | 2 | 236 |
| 08 | 05 | 890804 | 19.45 | 56 | 67 | 07 | 07 | 01 | 2 | 236 |
| 08 | 06 | 890804 | 19.45 | 67 | 07 | 56 | 07 | 01 | 2 | 236 |
| 08 | 07 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 01 | 2 | 236 |
| 08 | 08 | 890804 | 19.45 | 71 | 73 | 55 | 01 | 02 | 2 | 236 |
| 08 | 09 | 890804 | 19.45 | 71 | 73 | 55 | 01 | 02 | 2 | 236 |
| 09 | 01 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 01 | 2 | 236 |
| 09 | 02 | 890804 | 19.45 | 07 | 56 | 67 | 07 | 01 | 2 | 236 |
| 09 | 03 | 890804 | 19.45 | 56 | 67 | 07 | 07 | 01 | 2 | 236 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------------------------|---------------|------------------|----------------------|-----------------------|-----------------------|
| 09 | 04 | 890804 | 19.45 | 67 | 07 | 56 | 02 | 03 | 3 | 233 |
| 09 | 05 | 890804 | 19.45 | 67 | 07 | 56 | 03 | 3 | 233 | 14 47 n 115 47 w 6.81 |
| 09 | 06 | 890804 | 19.45 | 67 | 07 | 56 | 03 | 3 | 233 | 14 44 n 115 52 w 3.89 |
| 09 | 01 | 890805 | 19.45 | 71 | 73 | 55 | 07 | 03 | 3 | 225 |
| 01 | 02 | 890805 | 19.45 | 73 | 55 | 71 | 07 | 03 | 3 | 225 |
| 01 | 03 | 890805 | 19.45 | 55 | 71 | 73 | 07 | 03 | 3 | 225 |
| 01 | 04 | 890805 | 19.45 | 67 | 07 | 56 | 07 | 02 | 3 | 225 |
| 02 | 01 | 890805 | 19.45 | 67 | 07 | 56 | 07 | 02 | 2 | 225 |
| 02 | 02 | 890805 | 19.45 | 07 | 56 | 67 | 07 | 02 | 2 | 225 |
| 02 | 03 | 890805 | 19.45 | 07 | 56 | 67 | 07 | 02 | 3 | 225 |
| 02 | 04 | 890805 | 19.45 | 07 | 56 | 67 | 07 | 02 | 2 | 225 |
| 02 | 05 | 890805 | 19.45 | 56 | 67 | 07 | 07 | 02 | 2 | 225 |
| 02 | 06 | 890805 | 19.45 | 71 | 71 | 73 | 55 | 01 | 2 | 232 |
| 02 | 07 | 890805 | 19.45 | 71 | 73 | 55 | 07 | 01 | 2 | 232 |
| 02 | 08 | 890805 | 19.45 | 73 | 55 | 71 | 07 | 02 | 2 | 232 |
| 03 | 01 | 890805 | 19.45 | 73 | 55 | 71 | 07 | 02 | 2 | 231 |
| 03 | 02 | 890805 | 19.45 | 55 | 71 | 73 | 07 | 12 | 2 | 231 |
| 04 | 01 | 890805 | 19.45 | 67 | 07 | 56 | 07 | 12 | 3 | 231 |
| 05 | 01 | 890805 | 19.45 | 07 | 56 | 67 | 12 | 12 | 3 | 140 |
| 06 | 01 | 890805 | 19.45 | 71 | 73 | 55 | 05 | 01 | 3 | 135 |
| 06 | 02 | 890805 | 19.45 | 73 | 55 | 71 | 04 | 01 | 3 | 135 |
| 07 | 01 | 890805 | 19.45 | 67 | 07 | 56 | 05 | 02 | 3 | 135 |
| 07 | 02 | 890805 | 19.45 | 07 | 56 | 67 | 05 | 02 | 3 | 135 |
| 08 | 01 | 890805 | 19.45 | 71 | 73 | 55 | 05 | 02 | 3 | 135 |
| 08 | 02 | 890805 | 19.45 | 71 | 73 | 55 | 05 | 02 | 3 | 135 |
| 08 | 03 | 890805 | 19.45 | 73 | 55 | 71 | 07 | 11 | 3 | 135 |
| 09 | 01 | 890805 | 19.45 | 73 | 55 | 71 | 07 | 11 | 3 | 135 |
| 01 | 02 | 890806 | 19.26 | 56 | 67 | 07 | 07 | 11 | 3 | 119 |
| 01 | 03 | 890806 | 19.26 | 56 | 67 | 07 | 07 | 11 | 3 | 119 |
| 01 | 04 | 890806 | 19.26 | 67 | 07 | 56 | 07 | 11 | 3 | 119 |
| 01 | 05 | 890806 | 19.26 | 67 | 07 | 56 | 11 | 03 | 1 | 03 |
| 02 | 01 | 890806 | 18.71 | 67 | 07 | 56 | 11 | 03 | 1 | 03 |
| 03 | 01 | 890806 | 18.71 | 56 | 67 | 07 | 11 | 03 | 1 | 03 |
| 04 | 01 | 890806 | 18.71 | 55 | 71 | 73 | 07 | 11 | 4 | 119 |
| 05 | 01 | 890806 | 18.71 | 55 | 71 | 73 | 07 | 11 | 4 | 119 |
| 05 | 02 | 890806 | 18.71 | 55 | 71 | 73 | 10 | 02 | 4 | 119 |
| 05 | 03 | 890806 | 18.71 | 55 | 71 | 73 | 10 | 02 | 4 | 119 |
| 06 | 01 | 890806 | 19.63 | 56 | 67 | 07 | 11 | 01 | 4 | 117 |
| 06 | 02 | 890806 | 19.63 | 56 | 67 | 07 | 11 | 01 | 3 | 117 |
| 06 | 03 | 890806 | 19.63 | 67 | 07 | 56 | 11 | 01 | 3 | 117 |
| 06 | 04 | 890806 | 19.63 | 67 | 07 | 56 | 11 | 01 | 3 | 117 |
| 06 | 05 | 890806 | 19.63 | 56 | 71 | 73 | 12 | 12 | 3 | 117 |
| 07 | 01 | 890806 | 19.63 | 71 | 73 | 55 | 07 | 11 | 2 | 117 |
| 07 | 02 | 890806 | 19.63 | 71 | 73 | 55 | 06 | 12 | 2 | 117 |
| 07 | 03 | 890806 | 19.63 | 71 | 73 | 55 | 06 | 12 | 2 | 117 |
| 07 | 04 | 890806 | 19.63 | 73 | 55 | 71 | 05 | 12 | 2 | 117 |
| 08 | 01 | 890806 | 19.63 | 73 | 55 | 71 | 05 | 12 | 2 | 117 |
| 08 | 02 | 890806 | 19.63 | 56 | 67 | 07 | 11 | 20 | 2 | 117 |
| 09 | 01 | 890806 | 19.45 | 56 | 67 | 07 | 11 | 18 | 1 | 117 |
| 09 | 02 | 890806 | 19.45 | 67 | 07 | 56 | 11 | 16 | 1 | 117 |
| 09 | 03 | 890806 | 19.45 | 67 | 07 | 56 | 11 | 16 | 1 | 117 |
| 09 | 04 | 890806 | 19.45 | 67 | 07 | 56 | 11 | 12 | 1 | 117 |
| 10 | 01 | 890806 | 19.45 | 55 | 71 | 73 | 11 | 12 | 1 | 117 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horiz. vert. | beauf. no. | course (deg.) | position latitude | longitude | km in leg |
|--------|-----|--------|----------------|--------------------|---------------------------------|---------------|------------------|----------------------|-----------|--------------|
| | | | | left right rec. | | | | | | |
| 10 | 02 | 890806 | 19.45 | 55 | 71 | 73 | 1 | 117 | 11 11 n | 114 56 w |
| 10 | 03 | 890806 | 19.45 | 55 | 71 | 73 | 2 | 117 | 11 10 n | 114 54 w |
| 10 | 04 | 890806 | 19.45 | 71 | 73 | 55 | 2 | 117 | 11 09 n | 114 53 w |
| 10 | 05 | 890806 | 19.45 | 71 | 73 | 55 | 2 | 165 | 11 08 n | 114 51 w |
| 10 | 06 | 890806 | 19.45 | 71 | 73 | 55 | 1 | 165 | 11 06 n | 114 50 w |
| 10 | 07 | 890806 | 19.45 | 73 | 55 | 71 | 1 | 165 | 11 04 n | 114 49 w |
| 11 | 01 | 890806 | 18.52 | 73 | 55 | 71 | 1 | 165 | 11 03 n | 114 49 w |
| 11 | 02 | 890806 | 18.52 | 56 | 67 | 07 | 2 | 117 | 10 55 n | 114 41 w |
| 12 | 01 | 890806 | 17.96 | 67 | 07 | 56 | 2 | 117 | 10 55 n | 114 40 w |
| 12 | 02 | 890806 | 17.96 | 67 | 07 | 56 | 2 | 117 | 10 18 n | 113 34 w |
| 01 | 01 | 890807 | 18.52 | 73 | 55 | 71 | 3 | 115 | 113 34 w | 8.64 |
| 01 | 02 | 890807 | 18.52 | 55 | 71 | 73 | 10 | 03 | 4 | 5.56 |
| 01 | 03 | 890807 | 18.52 | 55 | 71 | 73 | 10 | 03 | 4 | 3.70 |
| 01 | 04 | 890807 | 18.52 | 71 | 73 | 55 | 10 | 03 | 4 | 8.64 |
| 01 | 05 | 890807 | 18.52 | 07 | 56 | 67 | 11 | 02 | 4 | 12.35 |
| 01 | 06 | 890807 | 18.52 | 56 | 67 | 07 | 11 | 02 | 4 | 6.17 |
| 01 | 07 | 890807 | 18.52 | 67 | 07 | 56 | 11 | 02 | 4 | 4.63 |
| 01 | 08 | 890807 | 18.52 | 67 | 07 | 56 | 11 | 01 | 4 | 4.63 |
| 01 | 09 | 890807 | 18.52 | 73 | 55 | 71 | 11 | 01 | 3 | 3.09 |
| 01 | 10 | 890807 | 18.52 | 73 | 55 | 71 | 11 | 01 | 3 | 2.16 |
| 01 | 11 | 890807 | 18.52 | 73 | 55 | 71 | 11 | 01 | 4 | 3.40 |
| 01 | 12 | 890807 | 18.52 | 55 | 71 | 73 | 11 | 01 | 4 | 4.94 |
| 01 | 13 | 890807 | 18.52 | 55 | 71 | 73 | 11 | 01 | 4 | 1.85 |
| 01 | 14 | 890807 | 18.52 | 55 | 71 | 73 | 11 | 01 | 4 | 1.54 |
| 01 | 15 | 890807 | 18.52 | 55 | 71 | 73 | 11 | 01 | 4 | 2.16 |
| 01 | 16 | 890807 | 18.52 | 71 | 73 | 55 | 11 | 01 | 4 | 7.10 |
| 02 | 01 | 890807 | 18.52 | 73 | 55 | 71 | 4 | 113 | 09 52 n | 112 43 w |
| 02 | 02 | 890807 | 18.52 | 07 | 56 | 67 | 4 | 105 | 09 40 n | 112 28 w |
| 03 | 01 | 890807 | 18.52 | 56 | 67 | 07 | 4 | 105 | 09 40 n | 112 28 w |
| 02 | 02 | 890807 | 18.52 | 56 | 71 | 73 | 55 | 09 | 40 n | 12.35 |
| 03 | 03 | 890807 | 18.52 | 55 | 71 | 73 | 55 | 09 | 40 n | 12.35 |
| 03 | 04 | 890807 | 18.52 | 71 | 73 | 55 | 06 | 02 | 4 | 4.63 |
| 04 | 01 | 890807 | 18.52 | 71 | 73 | 55 | 06 | 02 | 4 | 6.48 |
| 04 | 02 | 890807 | 18.52 | 07 | 56 | 67 | 06 | 02 | 4 | 9.26 |
| 04 | 03 | 890807 | 18.52 | 56 | 67 | 07 | 06 | 02 | 3 | 1.23 |
| 04 | 04 | 890807 | 18.52 | 56 | 67 | 07 | 06 | 02 | 3 | 3.40 |
| 05 | 01 | 890807 | 18.52 | 73 | 55 | 71 | 2 | 105 | 09 29 n | 111 44 w |
| 05 | 02 | 890807 | 18.52 | 73 | 55 | 71 | 2 | 145 | 09 26 n | 111 41 w |
| 05 | 03 | 890807 | 18.52 | 73 | 55 | 71 | 3 | 145 | 08 27 n | 110 58 w |
| 01 | 01 | 890808 | 18.52 | 67 | 07 | 56 | 4 | 145 | 08 24 n | 110 55 w |
| 01 | 02 | 890808 | 18.52 | 67 | 07 | 56 | 4 | 145 | 08 24 n | 3.09 |
| 01 | 03 | 890808 | 18.52 | 07 | 56 | 67 | 4 | 145 | 08 24 n | 0.93 |
| 04 | 01 | 890808 | 18.52 | 07 | 56 | 67 | 4 | 145 | 08 22 n | 4.63 |
| 04 | 02 | 890808 | 18.52 | 56 | 67 | 07 | 3 | 148 | 08 16 n | 3.97 |
| 04 | 03 | 890808 | 18.52 | 71 | 73 | 55 | 4 | 148 | 08 14 n | 5.19 |
| 02 | 02 | 890808 | 18.52 | 71 | 73 | 55 | 4 | 148 | 08 12 n | 0.31 |
| 02 | 03 | 890808 | 18.52 | 71 | 73 | 55 | 4 | 148 | 05 42 n | 7.10 |
| 01 | 01 | 890809 | 18.52 | 55 | 71 | 73 | 09 | 03 | 4 | 1.85 |
| 01 | 02 | 890809 | 18.52 | 55 | 71 | 73 | 09 | 03 | 4 | 8.33 |
| 02 | 01 | 890809 | 18.52 | 71 | 73 | 55 | 09 | 02 | 4 | 4.94 |
| 02 | 02 | 890809 | 18.52 | 73 | 55 | 71 | 09 | 02 | 4 | 2.16 |
| 02 | 03 | 890809 | 18.52 | 73 | 55 | 71 | 07 | 09 | 4 | 12.35 |
| 02 | 04 | 890809 | 18.52 | 56 | 67 | 07 | 05 | 31 n | 108 57 w | 4.63 |

Table 2. (continued)

| series | leg | date | speed km/hr. | observer codes | sun position | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | | | |
|--------|-----|--------|-----------------|--------------------|--------------|---------------|------------------|----------------------|-----------------------|--------------|----------|----------|------|
| | | | | left right rec. | horz. vert. | | | | | | | | |
| 02 | 06 | 890809 | 18.52 | 67 | 07 | 56 | 4 | 155 | 05 22 n | 6.17 | | | |
| 02 | 07 | 890809 | 18.52 | 67 | 07 | 56 | 4 | 155 | 108 50 w | 10.49 | | | |
| 02 | 08 | 890809 | 18.52 | 07 | 56 | 67 | 5 | 155 | 108 47 w | 1.85 | | | |
| 02 | 09 | 890809 | 18.52 | 07 | 56 | 67 | 5 | 155 | 108 44 w | 9.26 | | | |
| 02 | 10 | 890809 | 18.52 | 55 | 71 | 73 | 5 | 155 | 108 44 w | 3.09 | | | |
| 02 | 11 | 890809 | 18.52 | 55 | 71 | 73 | 01 | 155 | 108 44 w | 12.35 | | | |
| 02 | 12 | 890809 | 18.52 | 71 | 73 | 55 | 01 | 155 | 108 44 w | 5.25 | | | |
| 02 | 13 | 890809 | 18.52 | 73 | 55 | 71 | 01 | 155 | 108 40 w | 5.25 | | | |
| 03 | 01 | 890809 | 18.52 | 73 | 55 | 71 | 08 | 155 | 108 34 w | 12.35 | | | |
| 03 | 02 | 890809 | 18.52 | 56 | 67 | 07 | 12 | 4 | 155 | 108 34 w | 6.17 | | |
| 03 | 03 | 890809 | 18.52 | 67 | 07 | 56 | 06 | 12 | 4 | 155 | 108 34 w | 4.63 | |
| 03 | 04 | 890809 | 18.52 | 67 | 07 | 56 | 05 | 12 | 4 | 155 | 108 33 w | 1.54 | |
| 03 | 05 | 890809 | 18.52 | 67 | 07 | 56 | 05 | 01 | 4 | 155 | 108 33 w | 3.70 | |
| 03 | 06 | 890809 | 18.52 | 07 | 56 | 67 | 04 | 01 | 4 | 155 | 108 33 w | 12.35 | |
| 04 | 01 | 890809 | 18.52 | 67 | 07 | 56 | 67 | 04 | 01 | 4 | 155 | 108 33 w | 7.41 |
| 04 | 02 | 890809 | 18.52 | 55 | 71 | 73 | 04 | 01 | 4 | 155 | 108 33 w | 5.25 | |
| 04 | 03 | 890809 | 18.52 | 71 | 73 | 55 | 04 | 01 | 4 | 150 | 108 28 w | 12.04 | |
| 04 | 04 | 890809 | 18.52 | 71 | 73 | 55 | 04 | 02 | 4 | 150 | 108 23 w | 9.26 | |
| 04 | 05 | 890809 | 18.52 | 73 | 55 | 71 | 04 | 02 | 4 | 150 | 108 23 w | 9.26 | |
| 04 | 06 | 890809 | 18.52 | 56 | 67 | 07 | 04 | 02 | 4 | 150 | 108 23 w | 9.26 | |
| 04 | 07 | 890809 | 18.52 | 67 | 07 | 56 | 07 | 04 | 4 | 150 | 108 19 w | 8.03 | |
| 04 | 08 | 890809 | 18.52 | 07 | 56 | 67 | 04 | 02 | 4 | 150 | 108 19 w | 1.23 | |
| 04 | 09 | 890809 | 18.52 | 07 | 56 | 67 | 04 | 02 | 4 | 150 | 108 18 w | 7.72 | |
| 04 | 10 | 890809 | 18.52 | 55 | 71 | 73 | 04 | 02 | 4 | 150 | 108 18 w | 6.17 | |
| 04 | 11 | 890809 | 18.52 | 71 | 73 | 55 | 07 | 04 | 2 | 150 | 108 18 w | 0.31 | |
| 05 | 01 | 890809 | 18.52 | 71 | 73 | 55 | 07 | 04 | 2 | 150 | 108 18 w | 4.63 | |
| 01 | 01 | 890810 | 18.52 | 07 | 56 | 67 | 07 | 04 | 2 | 150 | 109 47 w | 9.88 | |
| 02 | 01 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 2 | 150 | 109 55 w | 8.64 | | |
| 03 | 01 | 890810 | 18.52 | 07 | 56 | 67 | 07 | 04 | 2 | 150 | 110 04 w | 7.10 | |
| 03 | 02 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 2 | 150 | 110 09 w | 1.85 | | |
| 03 | 03 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 01 | 4 | 288 | 05 02 n | 12.35 | |
| 03 | 04 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 03 n | 4.63 | |
| 03 | 05 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 05 n | 5.25 | |
| 03 | 06 | 890810 | 18.52 | 55 | 71 | 73 | 01 | 01 | 4 | 288 | 05 07 n | 9.26 | |
| 04 | 01 | 890810 | 18.52 | 55 | 71 | 73 | 01 | 01 | 4 | 288 | 05 09 n | 8.03 | |
| 04 | 02 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 01 | 4 | 288 | 05 10 n | 1.23 | |
| 04 | 03 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 01 | 4 | 288 | 05 11 n | 2.47 | |
| 04 | 04 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 13 n | 9.88 | |
| 04 | 05 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 15 n | 5.25 | |
| 04 | 06 | 890810 | 18.52 | 56 | 67 | 07 | 04 | 01 | 4 | 288 | 05 16 n | 1.85 | |
| 04 | 07 | 890810 | 18.52 | 67 | 07 | 56 | 12 | 02 | 4 | 288 | 05 19 n | 6.17 | |
| 04 | 08 | 890810 | 18.52 | 67 | 07 | 56 | 11 | 02 | 4 | 288 | 05 20 n | 2.78 | |
| 04 | 09 | 890810 | 18.52 | 73 | 55 | 71 | 11 | 02 | 4 | 288 | 05 21 n | 1.23 | |
| 05 | 01 | 890810 | 18.52 | 56 | 67 | 07 | 12 | 01 | 4 | 288 | 05 26 n | 0.31 | |
| 05 | 02 | 890810 | 18.52 | 55 | 71 | 73 | 12 | 03 | 4 | 288 | 05 29 n | 4.01 | |
| 05 | 03 | 890810 | 18.52 | 55 | 71 | 73 | 04 | 01 | 4 | 288 | 05 30 n | 3.09 | |
| 05 | 04 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 31 n | 6.17 | |
| 05 | 05 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 32 n | 2.78 | |
| 05 | 06 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 33 n | 1.23 | |
| 05 | 07 | 890810 | 18.52 | 67 | 07 | 56 | 04 | 01 | 4 | 288 | 05 34 n | 0.31 | |
| 01 | 01 | 890811 | 18.52 | 71 | 73 | 55 | 04 | 01 | 4 | 288 | 05 35 n | 4.01 | |
| 01 | 02 | 890811 | 18.52 | 71 | 73 | 55 | 04 | 03 | 4 | 288 | 05 36 n | 3.09 | |
| 01 | 03 | 890811 | 18.52 | 73 | 55 | 71 | 05 | 03 | 4 | 288 | 05 37 n | 6.17 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | rec. | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | |
|--------|-----|--------|----------------|------------------|----------------|------|-----------------------------|---------------|------------------|----------------------|-----------------------|--------------|-------|
| 01 | 04 | 890811 | 18.52 | 73 | 55 | 71 | 05 | 03 | 4 | 289 | 05 52 n | 112 30 w | 2.47 |
| 02 | 01 | 890811 | 18.52 | 73 | 55 | 71 | 05 | 03 | 4 | 289 | 05 52 n | 112 32 w | 2.78 |
| 02 | 02 | 890811 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 289 | 05 52 n | 112 32 w | 6.48 |
| 02 | 03 | 890811 | 18.52 | 67 | 07 | 56 | 07 | 56 | 4 | 289 | 05 57 n | 112 39 w | 5.86 |
| 02 | 04 | 890811 | 19.45 | 07 | 56 | 67 | 07 | 56 | 4 | 289 | 05 57 n | 112 39 w | 3.57 |
| 03 | 01 | 890811 | 19.45 | 07 | 56 | 67 | 07 | 56 | 4 | 289 | 06 00 n | 112 52 w | 4.21 |
| 03 | 02 | 890811 | 19.45 | 56 | 67 | 07 | 55 | 73 | 4 | 287 | 06 00 n | 112 52 w | 12.96 |
| 03 | 03 | 890811 | 19.45 | 71 | 73 | 55 | 73 | 55 | 4 | 287 | 06 00 n | 112 52 w | 3.24 |
| 03 | 04 | 890811 | 19.45 | 71 | 73 | 55 | 73 | 55 | 4 | 287 | 06 00 n | 112 52 w | 4.21 |
| 03 | 05 | 890811 | 19.45 | 71 | 73 | 55 | 73 | 55 | 4 | 287 | 06 00 n | 112 52 w | 6.16 |
| 03 | 06 | 890811 | 19.45 | 73 | 55 | 71 | 04 | 01 | 5 | 287 | 06 03 n | 113 03 w | 4.54 |
| 03 | 07 | 890811 | 19.45 | 73 | 55 | 71 | 04 | 01 | 5 | 287 | 06 05 n | 113 11 w | 0.97 |
| 04 | 01 | 890811 | 19.45 | 55 | 71 | 04 | 01 | 01 | 5 | 287 | 06 05 n | 113 11 w | 3.57 |
| 04 | 02 | 890811 | 19.45 | 55 | 71 | 07 | 56 | 56 | 5 | 287 | 06 09 n | 113 21 w | 12.96 |
| 04 | 03 | 890811 | 18.52 | 67 | 07 | 56 | 67 | 56 | 5 | 287 | 06 10 n | 113 26 w | 6.17 |
| 04 | 04 | 890811 | 18.52 | 67 | 07 | 56 | 67 | 56 | 5 | 287 | 06 10 n | 113 26 w | 0.93 |
| 05 | 01 | 890811 | 18.52 | 07 | 56 | 67 | 07 | 56 | 5 | 287 | 06 10 n | 113 26 w | 4.32 |
| 05 | 02 | 890811 | 18.52 | 07 | 56 | 67 | 07 | 56 | 5 | 287 | 06 10 n | 113 26 w | 4.94 |
| 05 | 03 | 890811 | 18.52 | 56 | 67 | 07 | 12 | 12 | 12 | 287 | 06 12 n | 113 31 w | 2.78 |
| 05 | 04 | 890811 | 18.52 | 56 | 67 | 07 | 12 | 12 | 01 | 287 | 06 12 n | 113 31 w | 6.48 |
| 05 | 05 | 890811 | 18.52 | 71 | 73 | 55 | 71 | 11 | 01 | 287 | 06 12 n | 113 31 w | 12.66 |
| 05 | 06 | 890811 | 18.52 | 73 | 55 | 71 | 12 | 12 | 01 | 287 | 06 12 n | 113 31 w | 5.86 |
| 05 | 07 | 890811 | 18.52 | 73 | 55 | 71 | 12 | 12 | 01 | 287 | 06 12 n | 113 31 w | 6.17 |
| 05 | 08 | 890811 | 18.52 | 55 | 71 | 04 | 01 | 01 | 5 | 302 | 06 19 n | 113 45 w | 3.09 |
| 05 | 09 | 890811 | 18.52 | 55 | 71 | 04 | 01 | 01 | 5 | 285 | 06 21 n | 113 50 w | 9.26 |
| 05 | 10 | 890811 | 18.52 | 67 | 07 | 56 | 67 | 56 | 5 | 285 | 06 19 n | 113 53 w | 3.70 |
| 06 | 01 | 890811 | 18.52 | 07 | 56 | 67 | 07 | 56 | 5 | 285 | 06 21 n | 113 58 w | 9.26 |
| 06 | 02 | 890811 | 18.52 | 56 | 67 | 07 | 56 | 67 | 5 | 285 | 06 21 n | 113 58 w | 7.10 |
| 06 | 03 | 890811 | 18.52 | 56 | 67 | 07 | 55 | 73 | 5 | 285 | 06 22 n | 114 03 w | 2.16 |
| 06 | 04 | 890811 | 18.52 | 71 | 73 | 55 | 71 | 11 | 01 | 285 | 06 22 n | 114 03 w | 6.17 |
| 06 | 05 | 890811 | 18.52 | 55 | 71 | 04 | 01 | 01 | 5 | 285 | 06 19 n | 113 45 w | 6.17 |
| 06 | 06 | 890811 | 18.52 | 67 | 07 | 56 | 67 | 56 | 5 | 285 | 06 24 n | 114 11 w | 6.17 |
| 06 | 07 | 890811 | 18.52 | 55 | 71 | 04 | 01 | 01 | 5 | 287 | 06 47 n | 115 15 w | 0.31 |
| 01 | 01 | 890812 | 14.82 | 56 | 67 | 07 | 56 | 05 | 03 | 285 | 06 28 n | 114 11 w | 5.43 |
| 01 | 02 | 890812 | 14.82 | 67 | 07 | 56 | 67 | 07 | 05 | 287 | 06 49 n | 115 21 w | 3.70 |
| 01 | 03 | 890812 | 14.82 | 67 | 07 | 56 | 67 | 05 | 02 | 287 | 06 51 n | 115 25 w | 1.73 |
| 01 | 04 | 890812 | 14.82 | 07 | 56 | 67 | 05 | 02 | 05 | 287 | 06 51 n | 115 25 w | 5.68 |
| 01 | 05 | 890812 | 14.82 | 55 | 71 | 04 | 01 | 02 | 05 | 287 | 06 51 n | 115 25 w | 4.94 |
| 01 | 06 | 890812 | 14.82 | 71 | 73 | 55 | 71 | 05 | 02 | 287 | 06 51 n | 115 25 w | 5.43 |
| 01 | 07 | 890812 | 14.82 | 73 | 55 | 71 | 05 | 02 | 05 | 287 | 06 51 n | 115 25 w | 2.22 |
| 01 | 08 | 890812 | 14.82 | 73 | 55 | 71 | 05 | 02 | 05 | 287 | 06 54 n | 115 34 w | 2.22 |
| 01 | 09 | 890812 | 14.82 | 73 | 55 | 71 | 05 | 03 | 05 | 295 | 06 46 n | 120 26 w | 0.25 |
| 01 | 01 | 890814 | 14.82 | 07 | 56 | 67 | 05 | 03 | 05 | 295 | 08 49 n | 120 34 w | 2.72 |
| 01 | 02 | 890814 | 14.82 | 07 | 56 | 67 | 05 | 03 | 05 | 295 | 08 51 n | 120 38 w | 2.22 |
| 01 | 03 | 890814 | 14.82 | 56 | 67 | 07 | 56 | 05 | 02 | 295 | 08 51 n | 120 38 w | 9.88 |
| 01 | 04 | 890814 | 14.82 | 67 | 07 | 56 | 67 | 05 | 02 | 295 | 08 51 n | 120 38 w | 6.67 |
| 01 | 05 | 890814 | 14.82 | 73 | 55 | 71 | 05 | 02 | 05 | 298 | 08 57 n | 120 49 w | 3.21 |
| 01 | 06 | 890814 | 14.82 | 73 | 55 | 71 | 05 | 02 | 05 | 298 | 08 57 n | 120 49 w | 0.99 |
| 01 | 07 | 890814 | 14.82 | 71 | 73 | 55 | 71 | 05 | 02 | 298 | 08 57 n | 120 49 w | 0.99 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | | sun position | | beauf. no. | course (deg.) | position latitude | longitude | km in leg | | |
|--------|-----|--------|----------------|----------------|-------|------|--------------|-------|---------------|------------------|----------------------|-----------|--------------|----------|------|
| | | | | left | right | rec. | horz. | vert. | | | | | | | |
| 01 | 12 | 890814 | 14.82 | 07 | 56 | 67 | 05 | 02 | 5 | 300 | 08 57 n | 120 50 w | 3.95 | | |
| 01 | 13 | 890814 | 14.82 | 56 | 67 | 07 | 05 | 02 | 5 | 300 | | | 4.94 | | |
| 01 | 14 | 890814 | 14.82 | 67 | 07 | 56 | 05 | 01 | 5 | 300 | | | 2.47 | | |
| 01 | 15 | 890814 | 14.82 | 67 | 07 | 56 | 05 | 01 | 5 | 300 | | | 0.74 | | |
| 01 | 16 | 890814 | 14.82 | 67 | 07 | 56 | 05 | 01 | 5 | 300 | | | 1.73 | | |
| 02 | 01 | 890814 | 14.82 | 73 | 55 | 71 | 10 | 01 | 5 | 328 | 09 25 n | 121 34 w | 7.41 | | |
| 02 | 02 | 890814 | 14.82 | 55 | 71 | 73 | 10 | 02 | 5 | 328 | 09 28 n | 121 36 w | 4.44 | | |
| 03 | 01 | 890814 | 14.82 | 07 | 56 | 67 | 07 | 56 | 5 | 328 | 09 36 n | 121 40 w | 8.15 | | |
| 03 | 02 | 890814 | 14.82 | 56 | 67 | 07 | 56 | 07 | 5 | 328 | 09 40 n | 121 43 w | 7.90 | | |
| 03 | 03 | 890814 | 14.82 | 67 | 07 | 56 | 07 | 56 | 5 | 328 | 09 47 n | 121 48 w | 7.16 | | |
| 03 | 04 | 890814 | 14.82 | 67 | 07 | 56 | 05 | 03 | 5 | 328 | 09 47 n | 121 48 w | 0.25 | | |
| 01 | 01 | 890815 | 18.52 | 71 | 73 | 55 | 05 | 03 | 4 | 301 | 10 16 n | 122 56 w | 1.54 | | |
| 01 | 02 | 890815 | 18.52 | 71 | 73 | 55 | 05 | 03 | 4 | 301 | | | 0.62 | | |
| 01 | 03 | 890815 | 18.52 | 71 | 73 | 55 | 05 | 03 | 4 | 301 | 10 18 n | 122 58 w | 3.09 | | |
| 02 | 01 | 890815 | 18.52 | 71 | 73 | 55 | 05 | 03 | 4 | 301 | 10 19 n | 123 00 w | 0.93 | | |
| 02 | 02 | 890815 | 18.52 | 71 | 73 | 55 | 05 | 03 | 4 | 301 | | | 8.33 | | |
| 02 | 03 | 890815 | 18.52 | 73 | 55 | 71 | 05 | 03 | 4 | 301 | 10 22 n | 123 04 w | 9.26 | | |
| 02 | 04 | 890815 | 18.52 | 55 | 71 | 73 | 04 | 02 | 4 | 301 | 10 24 n | 123 08 w | 3.09 | | |
| 02 | 05 | 890815 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 301 | | | 4.63 | | |
| 02 | 06 | 890815 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 301 | 10 28 n | 123 14 w | 0.93 | | |
| 03 | 01 | 890815 | 18.52 | 67 | 07 | 56 | 07 | 56 | 4 | 301 | | | 4.63 | | |
| 03 | 02 | 890815 | 18.52 | 07 | 56 | 67 | 07 | 09 | 02 | 4 | 170 | 10 28 n | 123 16 w | 3.40 | |
| 04 | 01 | 890815 | 18.52 | 56 | 67 | 67 | 07 | 09 | 02 | 4 | 170 | | | 2.78 | |
| 04 | 02 | 890815 | 18.52 | 07 | 56 | 67 | 07 | 09 | 02 | 4 | 170 | | | 3.70 | |
| 04 | 03 | 890815 | 18.52 | 56 | 67 | 67 | 07 | 09 | 01 | 5 | 303 | 10 21 n | 123 15 w | 5.56 | |
| 04 | 04 | 890815 | 18.52 | 67 | 07 | 56 | 67 | 07 | 04 | 4 | 170 | 10 23 n | 123 18 w | 12.66 | |
| 05 | 01 | 890815 | 18.52 | 56 | 67 | 67 | 07 | 09 | 01 | 5 | 303 | 10 21 n | 123 18 w | 12.04 | |
| 05 | 02 | 890815 | 18.52 | 07 | 56 | 67 | 07 | 09 | 01 | 5 | 303 | 10 23 n | 123 18 w | 3.09 | |
| 05 | 03 | 890815 | 18.52 | 55 | 71 | 73 | 04 | 01 | 5 | 303 | 10 31 n | 123 31 w | 9.26 | | |
| 05 | 04 | 890815 | 18.52 | 55 | 71 | 73 | 04 | 12 | 5 | 303 | 10 35 n | 123 36 w | 6.17 | | |
| 05 | 05 | 890815 | 18.52 | 55 | 71 | 73 | 04 | 12 | 5 | 303 | | | 6.17 | | |
| 05 | 06 | 890815 | 18.52 | 67 | 07 | 56 | 07 | 56 | 4 | 170 | | | 6.17 | | |
| 05 | 07 | 890815 | 18.52 | 07 | 56 | 67 | 12 | 12 | 5 | 303 | | | 6.17 | | |
| 05 | 08 | 890815 | 18.52 | 56 | 67 | 07 | 12 | 12 | 5 | 303 | 10 46 n | 123 53 w | 6.79 | | |
| 06 | 01 | 890815 | 18.52 | 71 | 73 | 55 | 11 | 01 | 5 | 303 | | | 3.09 | | |
| 06 | 02 | 890815 | 18.52 | 73 | 55 | 71 | 11 | 01 | 5 | 303 | 10 51 n | 124 02 w | 6.17 | | |
| 06 | 03 | 890815 | 18.52 | 71 | 73 | 55 | 10 | 01 | 4 | 325 | | | 7.10 | | |
| 07 | 01 | 890815 | 18.52 | 71 | 73 | 55 | 10 | 01 | 4 | 325 | | | 5.25 | | |
| 07 | 02 | 890815 | 18.52 | 55 | 71 | 10 | 02 | 4 | 325 | 11 00 n | 124 08 w | 9.26 | | | |
| 07 | 03 | 890815 | 18.52 | 73 | 55 | 71 | 07 | 56 | 10 | 02 | 4 | 325 | 11 04 n | 124 11 w | 9.26 |
| 07 | 04 | 890815 | 18.52 | 67 | 07 | 56 | 67 | 10 | 02 | 4 | 325 | 11 09 n | 124 15 w | 9.26 | |
| 07 | 05 | 890815 | 18.52 | 07 | 56 | 67 | 07 | 10 | 03 | 4 | 325 | 11 13 n | 124 17 w | 9.26 | |
| 07 | 06 | 890815 | 18.52 | 56 | 67 | 71 | 55 | 10 | 03 | 4 | 325 | 11 16 n | 124 20 w | 9.26 | |
| 07 | 07 | 890815 | 18.52 | 71 | 73 | 55 | 71 | 07 | 4 | 325 | 11 22 n | 124 23 w | 0.31 | | |
| 07 | 08 | 890815 | 18.52 | 73 | 55 | 71 | 07 | 56 | 4 | 325 | 11 42 n | 125 23 w | 6.48 | | |
| 07 | 09 | 890815 | 18.52 | 73 | 55 | 71 | 07 | 56 | 3 | 298 | | | 2.16 | | |
| 01 | 01 | 890816 | 18.52 | 56 | 67 | 07 | 05 | 03 | 4 | 298 | | | 1.23 | | |
| 01 | 02 | 890816 | 18.52 | 56 | 67 | 07 | 05 | 03 | 4 | 298 | | | 2.47 | | |
| 01 | 03 | 890816 | 18.52 | 56 | 67 | 07 | 56 | 05 | 3 | 298 | 11 45 n | 125 30 w | 2.16 | | |
| 01 | 04 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 03 | 4 | 298 | | | 4.32 | | |
| 01 | 05 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 03 | 3 | 298 | | | 1.23 | | |
| 01 | 06 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 03 | 4 | 298 | 11 47 n | 125 34 w | 10.19 | | |
| 01 | 07 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 298 | 11 49 n | 125 39 w | 9.26 | | |
| 01 | 08 | 890816 | 18.52 | 55 | 71 | 73 | 04 | 02 | 4 | 298 | | | | | |
| 01 | 09 | 890816 | 18.52 | 55 | 71 | 73 | 04 | 02 | 4 | 298 | | | | | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position latitude | longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------|---------------|------------------|----------------------|-----------|------------------------|
| | | | left | right | horz. | vert. | | | | |
| 01 | 10 | 890816 | 18.52 | 55 | 71 | 04 | 02 | 4 | 305 | 11 51 n 125 44 w 3.09 |
| 01 | 11 | 890816 | 18.52 | 71 | 73 | 05 | 02 | 4 | 305 | 11 52 n 125 45 w 12.96 |
| 01 | 12 | 890816 | 18.52 | 73 | 55 | 71 | 05 | 4 | 305 | 8.03 |
| 01 | 13 | 890816 | 18.52 | 73 | 55 | 71 | 05 | 4 | 305 | 3.70 |
| 01 | 14 | 890816 | 18.52 | 56 | 67 | 07 | 05 | 01 | 307 | 11 59 n 125 57 w 12.35 |
| 01 | 15 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 01 | 307 | 2.47 |
| 01 | 16 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 01 | 307 | 1.85 |
| 01 | 17 | 890816 | 18.52 | 67 | 07 | 56 | 05 | 01 | 307 | 8.03 |
| 01 | 18 | 890816 | 18.52 | 07 | 56 | 67 | 04 | 01 | 307 | 12.35 |
| 01 | 19 | 890816 | 18.52 | 55 | 71 | 73 | 12 | 12 | 307 | 12.35 |
| 01 | 20 | 890816 | 18.52 | 71 | 73 | 55 | 12 | 12 | 307 | 13.27 |
| 01 | 21 | 890816 | 18.52 | 73 | 55 | 71 | 12 | 12 | 307 | 11.42 |
| 01 | 22 | 890816 | 18.52 | 56 | 67 | 07 | 11 | 01 | 307 | 12.35 |
| 01 | 23 | 890816 | 18.52 | 67 | 07 | 56 | 11 | 01 | 307 | 12.35 |
| 01 | 24 | 890816 | 18.52 | 07 | 56 | 67 | 11 | 01 | 307 | 10.80 |
| 01 | 25 | 890816 | 18.52 | 07 | 56 | 67 | 11 | 02 | 4 | 1.54 |
| 02 | 01 | 890816 | 18.52 | 55 | 71 | 73 | 11 | 02 | 3 | 7.72 |
| 03 | 01 | 890816 | 18.52 | 71 | 73 | 55 | 11 | 02 | 3 | 3.09 |
| 03 | 02 | 890816 | 18.52 | 56 | 67 | 07 | 11 | 03 | 3 | 3.09 |
| 03 | 03 | 890816 | 18.52 | 56 | 67 | 07 | 11 | 03 | 3 | 3.09 |
| 03 | 04 | 890816 | 18.52 | 56 | 67 | 07 | 11 | 03 | 3 | 3.09 |
| 03 | 05 | 890816 | 18.52 | 67 | 07 | 56 | 07 | 02 | 3 | 4.63 |
| 03 | 06 | 890816 | 18.52 | 67 | 07 | 56 | 07 | 02 | 3 | 1.54 |
| 03 | 07 | 890816 | 18.52 | 07 | 56 | 67 | 07 | 02 | 3 | 1.54 |
| 03 | 08 | 890816 | 18.52 | 07 | 56 | 67 | 11 | 03 | 2 | 5.25 |
| 03 | 09 | 890816 | 18.52 | 07 | 56 | 67 | 11 | 03 | 2 | 2.47 |
| 03 | 10 | 890816 | 18.52 | 07 | 56 | 67 | 11 | 03 | 2 | 3.09 |
| 01 | 01 | 890817 | 18.52 | 73 | 55 | 71 | 03 | 02 | 3 | 1.23 |
| 02 | 01 | 890817 | 18.52 | 55 | 71 | 73 | 03 | 02 | 3 | 0.31 |
| 02 | 02 | 890817 | 18.52 | 07 | 56 | 67 | 07 | 04 | 3 | 5.86 |
| 02 | 03 | 890817 | 18.52 | 07 | 56 | 67 | 07 | 04 | 3 | 3.09 |
| 03 | 01 | 890817 | 18.52 | 56 | 67 | 07 | 07 | 04 | 3 | 6.48 |
| 03 | 02 | 890817 | 18.52 | 56 | 67 | 07 | 07 | 04 | 3 | 2.78 |
| 03 | 03 | 890817 | 18.52 | 67 | 07 | 56 | 07 | 05 | 3 | 4.32 |
| 03 | 04 | 890817 | 18.52 | 67 | 07 | 56 | 07 | 05 | 3 | 7.41 |
| 03 | 05 | 890817 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 3.09 |
| 03 | 06 | 890817 | 18.52 | 67 | 07 | 56 | 05 | 02 | 4 | 5.56 |
| 03 | 07 | 890817 | 18.52 | 73 | 55 | 71 | 05 | 01 | 4 | 3.09 |
| 03 | 08 | 890817 | 18.52 | 55 | 71 | 73 | 05 | 01 | 4 | 5.86 |
| 03 | 09 | 890817 | 18.52 | 55 | 71 | 73 | 05 | 01 | 4 | 6.48 |
| 03 | 10 | 890817 | 18.52 | 67 | 07 | 56 | 05 | 01 | 4 | 5.25 |
| 03 | 11 | 890817 | 18.52 | 71 | 73 | 55 | 05 | 01 | 4 | 2.47 |
| 03 | 12 | 890817 | 18.52 | 71 | 73 | 55 | 06 | 01 | 4 | 4.63 |
| 03 | 13 | 890817 | 18.52 | 71 | 73 | 55 | 06 | 01 | 4 | 3.09 |
| 03 | 14 | 890817 | 18.52 | 71 | 73 | 55 | 06 | 01 | 4 | 12.35 |
| 03 | 15 | 890817 | 18.52 | 07 | 56 | 67 | 07 | 12 | 4 | 7.72 |
| 03 | 16 | 890817 | 18.52 | 56 | 67 | 07 | 12 | 12 | 4 | 3.09 |
| 03 | 17 | 890817 | 18.52 | 56 | 67 | 07 | 12 | 12 | 4 | 1.54 |
| 03 | 18 | 890817 | 18.52 | 56 | 67 | 07 | 12 | 12 | 4 | 4.01 |
| 03 | 19 | 890817 | 18.52 | 67 | 07 | 56 | 07 | 12 | 3 | 0.93 |
| 03 | 20 | 890817 | 18.52 | 67 | 07 | 56 | 07 | 12 | 3 | 1.85 |
| 04 | 01 | 890817 | 18.52 | 73 | 55 | 71 | 07 | 13 | 45 n | 0.93 |
| 05 | 01 | 890817 | 18.52 | 73 | 55 | 71 | 07 | 13 | 47 n | 1.85 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes left right | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|------------------------------|-----------------------------|---------------|------------------|--------------------------------|--------------|
| 05 | 02 | 890817 | 18.52 | 55 71 | 73 12 | 01 | 4 | 271 | 12.35 |
| 05 | 03 | 890817 | 18.52 | 71 55 | 55 12 | 01 | 4 | 271 | 9.26 |
| 06 | 01 | 890817 | 18.52 | 07 56 | 07 12 | 01 | 4 | 230 | 0.31 |
| 07 | 01 | 890817 | 18.52 | 56 67 | 07 12 | 02 | 4 | 271 | 2.16 |
| 07 | 02 | 890817 | 18.52 | 73 55 | 71 01 | 03 | 4 | 271 | 7.72 |
| 08 | 01 | 890817 | 18.52 | 55 71 | 73 01 | 03 | 4 | 240 | 2.78 |
| 08 | 02 | 890817 | 18.52 | 55 71 | 73 01 | 03 | 4 | 240 | 6.79 |
| 08 | 03 | 890817 | 18.52 | 55 71 | 73 07 | 03 | 4 | 240 | 0.31 |
| 01 | 01 | 890818 | 18.52 | 67 07 | 56 07 | 03 | 5 | 226 | 7.72 |
| 01 | 02 | 890818 | 18.52 | 07 56 | 67 07 | 03 | 5 | 226 | 1.54 |
| 01 | 03 | 890818 | 18.52 | 07 56 | 67 06 | 03 | 5 | 242 | 1.93 |
| 02 | 01 | 890818 | 18.52 | 56 67 | 67 07 | 03 | 5 | 242 | 5.25 |
| 02 | 02 | 890818 | 18.52 | 56 67 | 67 07 | 03 | 5 | 242 | 5.25 |
| 02 | 03 | 890818 | 18.52 | 71 55 | 73 07 | 02 | 5 | 242 | 2.78 |
| 02 | 04 | 890818 | 18.52 | 71 55 | 73 07 | 02 | 5 | 242 | 4.94 |
| 02 | 05 | 890818 | 18.52 | 71 55 | 73 07 | 02 | 5 | 221 | 5.25 |
| 03 | 01 | 890818 | 19.45 | 71 55 | 73 02 | 02 | 5 | 221 | 6.48 |
| 03 | 02 | 890818 | 19.45 | 71 55 | 73 05 | 02 | 5 | 221 | 8.10 |
| 03 | 03 | 890818 | 19.45 | 71 55 | 73 05 | 02 | 5 | 221 | 1.94 |
| 03 | 04 | 890818 | 19.45 | 73 55 | 71 02 | 02 | 5 | 224 | 3.24 |
| 03 | 05 | 890818 | 19.45 | 73 55 | 71 02 | 02 | 5 | 224 | 3.89 |
| 03 | 06 | 890818 | 19.45 | 55 71 | 73 02 | 02 | 5 | 224 | 2.27 |
| 03 | 07 | 890818 | 19.45 | 67 07 | 56 02 | 02 | 5 | 224 | 9.72 |
| 03 | 08 | 890818 | 19.45 | 67 07 | 56 02 | 02 | 5 | 234 | 3.24 |
| 03 | 09 | 890818 | 19.45 | 67 07 | 56 02 | 02 | 5 | 234 | 3.24 |
| 03 | 10 | 890818 | 19.45 | 07 56 | 67 01 | 03 | 5 | 234 | 9.72 |
| 03 | 11 | 890818 | 19.45 | 56 67 | 67 01 | 03 | 5 | 234 | 4.86 |
| 03 | 12 | 890818 | 19.45 | 56 67 | 67 01 | 03 | 5 | 234 | 6.81 |
| 03 | 13 | 890818 | 19.45 | 56 67 | 67 07 | 03 | 4 | 234 | 0.32 |
| 01 | 01 | 890819 | 20.37 | 55 71 | 73 07 | 03 | 4 | 218 | 7.47 |
| 01 | 02 | 890819 | 20.37 | 71 55 | 73 07 | 03 | 4 | 218 | 9.17 |
| 01 | 03 | 890819 | 20.37 | 73 55 | 71 07 | 03 | 4 | 218 | 7.13 |
| 01 | 04 | 890819 | 20.37 | 56 67 | 67 07 | 03 | 4 | 218 | 13.58 |
| 01 | 05 | 890819 | 20.37 | 67 07 | 56 07 | 02 | 5 | 218 | 13.58 |
| 01 | 06 | 890819 | 20.37 | 07 56 | 67 07 | 02 | 5 | 218 | 13.58 |
| 01 | 07 | 890819 | 20.37 | 55 71 | 73 07 | 01 | 5 | 218 | 13.58 |
| 01 | 08 | 890819 | 20.37 | 55 71 | 73 07 | 01 | 4 | 218 | 13.58 |
| 01 | 09 | 890819 | 20.37 | 55 71 | 73 07 | 01 | 4 | 218 | 7.81 |
| 02 | 01 | 890819 | 20.37 | 56 67 | 67 07 | 12 | 12 | 222 | 10.19 |
| 02 | 02 | 890819 | 20.37 | 67 07 | 56 12 | 12 | 5 | 222 | 11.88 |
| 02 | 03 | 890819 | 20.37 | 67 07 | 56 12 | 12 | 5 | 222 | 1.70 |
| 02 | 04 | 890819 | 20.37 | 55 71 | 73 07 | 12 | 5 | 226 | 13.58 |
| 02 | 05 | 890819 | 20.37 | 55 71 | 73 07 | 12 | 5 | 226 | 13.58 |
| 02 | 06 | 890819 | 20.37 | 55 71 | 73 02 | 01 | 4 | 226 | 13.58 |
| 02 | 07 | 890819 | 20.37 | 55 71 | 73 02 | 01 | 4 | 226 | 13.92 |
| 02 | 08 | 890819 | 20.37 | 55 71 | 73 02 | 01 | 4 | 226 | 2.72 |
| 03 | 01 | 890819 | 20.37 | 56 67 | 67 07 | 02 | 4 | 224 | 10.19 |
| 03 | 02 | 890819 | 20.37 | 67 07 | 56 02 | 02 | 3 | 224 | 3.06 |
| 03 | 03 | 890819 | 20.37 | 67 07 | 56 02 | 02 | 4 | 224 | 7.13 |
| 03 | 04 | 890819 | 20.37 | 55 71 | 73 02 | 03 | 4 | 224 | 6.79 |
| 04 | 01 | 890819 | 20.37 | 55 71 | 73 02 | 03 | 4 | 224 | 2.38 |
| 04 | 02 | 890819 | 20.37 | 55 71 | 73 02 | 03 | 4 | 224 | 1.02 |
| 04 | 03 | 890819 | 20.37 | 55 71 | 73 02 | 03 | 4 | 224 | 0.34 |
| 05 | 01 | 890819 | 20.37 | 55 71 | 73 02 | 03 | 4 | 302 | 8.03 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | | |
|--------|-----|--------|----------------|----------------|--------------|---------------|------------------|----------------------|-----------------------|--------------|----------|----------|
| | | | | left | right | rec. | vert. | | | | | |
| 01 | 02 | 890820 | 18.52 | 56 | 67 | 07 | 4 | 302 | 08 48 n | 136 45 w | | |
| 01 | 03 | 890820 | 18.52 | 56 | 67 | 07 | 5 | 302 | 08 53 n | 136 50 w | | |
| 01 | 04 | 890820 | 18.52 | 56 | 67 | 07 | 5 | 302 | 08 53 n | 136 51 w | | |
| 02 | 01 | 890820 | 18.52 | 73 | 55 | 71 | 5 | 297 | 08 53 n | 136 51 w | | |
| 02 | 02 | 890820 | 18.52 | 73 | 55 | 71 | 5 | 297 | 08 53 n | 136 51 w | | |
| 02 | 03 | 890820 | 18.52 | 73 | 55 | 71 | 5 | 297 | 08 53 n | 136 51 w | | |
| 02 | 04 | 890820 | 18.52 | 73 | 55 | 71 | 5 | 297 | 08 53 n | 136 51 w | | |
| 03 | 01 | 890820 | 18.52 | 07 | 56 | 67 | 2 | 345 | 09 21 n | 137 37 w | | |
| 03 | 02 | 890820 | 18.52 | 07 | 56 | 67 | 2 | 345 | 09 21 n | 137 37 w | | |
| 03 | 03 | 890820 | 18.52 | 07 | 56 | 67 | 2 | 345 | 09 21 n | 137 37 w | | |
| 03 | 04 | 890820 | 18.52 | 67 | 07 | 56 | 2 | 345 | 09 34 n | 137 41 w | | |
| 03 | 05 | 890820 | 18.52 | 67 | 07 | 56 | 3 | 345 | 09 38 n | 137 42 w | | |
| 03 | 06 | 890820 | 18.52 | 67 | 07 | 56 | 3 | 345 | 10 11 n | 138 57 w | | |
| 01 | 01 | 890821 | 20.37 | 71 | 73 | 55 | 4 | 290 | 10 13 n | 139 01 w | | |
| 01 | 02 | 890821 | 20.37 | 71 | 73 | 55 | 4 | 290 | 10 16 n | 139 02 w | | |
| 02 | 01 | 890821 | 20.37 | 73 | 55 | 71 | 05 | 290 | 10 16 n | 139 02 w | | |
| 02 | 02 | 890821 | 20.37 | 73 | 55 | 71 | 05 | 290 | 10 21 n | 139 19 w | | |
| 03 | 01 | 890821 | 20.37 | 67 | 07 | 56 | 05 | 302 | 10 21 n | 139 19 w | | |
| 03 | 02 | 890821 | 20.37 | 67 | 07 | 56 | 05 | 302 | 10 21 n | 139 19 w | | |
| 03 | 03 | 890821 | 20.37 | 56 | 67 | 07 | 05 | 302 | 10 21 n | 139 19 w | | |
| 03 | 04 | 890821 | 20.37 | 56 | 67 | 07 | 05 | 302 | 10 29 n | 139 30 w | | |
| 03 | 05 | 890821 | 20.37 | 71 | 73 | 55 | 05 | 302 | 10 36 n | 139 42 w | | |
| 04 | 01 | 890821 | 20.37 | 73 | 55 | 71 | 05 | 302 | 10 36 n | 139 42 w | | |
| 04 | 02 | 890821 | 20.37 | 73 | 55 | 71 | 05 | 302 | 10 39 n | 139 47 w | | |
| 05 | 01 | 890821 | 19.45 | 55 | 71 | 73 | 05 | 302 | 10 39 n | 139 47 w | | |
| 05 | 02 | 890821 | 19.45 | 67 | 07 | 56 | 05 | 302 | 10 45 n | 139 57 w | | |
| 05 | 03 | 890821 | 19.45 | 67 | 07 | 56 | 05 | 302 | 10 45 n | 139 57 w | | |
| 05 | 04 | 890821 | 19.45 | 07 | 56 | 67 | 12 | 3 | 302 | 10 45 n | 139 57 w | |
| 05 | 05 | 890821 | 19.45 | 07 | 56 | 67 | 12 | 3 | 302 | 10 45 n | 139 57 w | |
| 05 | 06 | 890821 | 19.45 | 07 | 56 | 67 | 12 | 3 | 302 | 10 45 n | 139 57 w | |
| 05 | 07 | 890821 | 19.45 | 56 | 67 | 07 | 11 | 01 | 4 | 302 | 10 51 n | 140 06 w |
| 06 | 01 | 890821 | 19.45 | 56 | 67 | 07 | 11 | 01 | 3 | 302 | 10 53 n | 140 07 w |
| 06 | 02 | 890821 | 19.45 | 71 | 55 | 71 | 11 | 02 | 3 | 302 | 10 55 n | 140 14 w |
| 06 | 03 | 890821 | 19.45 | 73 | 55 | 71 | 11 | 02 | 3 | 302 | 10 58 n | 140 19 w |
| 06 | 04 | 890821 | 19.45 | 67 | 07 | 56 | 11 | 02 | 2 | 302 | 11 04 n | 140 21 w |
| 06 | 05 | 890821 | 19.45 | 07 | 56 | 67 | 11 | 02 | 2 | 302 | 11 04 n | 140 25 w |
| 07 | 01 | 890821 | 19.45 | 56 | 67 | 07 | 05 | 03 | 2 | 302 | 11 08 n | 140 29 w |
| 08 | 02 | 890821 | 19.45 | 56 | 67 | 07 | 05 | 03 | 2 | 302 | 11 08 n | 140 29 w |
| 08 | 03 | 890821 | 19.45 | 71 | 73 | 55 | 05 | 03 | 2 | 302 | 11 08 n | 140 29 w |
| 08 | 04 | 890821 | 19.45 | 71 | 73 | 55 | 05 | 03 | 4 | 307 | 11 46 n | 141 41 w |
| 01 | 01 | 890822 | 19.45 | 56 | 67 | 07 | 05 | 02 | 4 | 307 | 11 47 n | 141 45 w |
| 02 | 02 | 890822 | 19.45 | 67 | 07 | 56 | 05 | 02 | 4 | 307 | 11 58 n | 142 02 w |
| 02 | 03 | 890822 | 19.45 | 67 | 07 | 56 | 04 | 03 | 4 | 307 | 11 58 n | 142 02 w |
| 02 | 04 | 890822 | 19.45 | 07 | 56 | 67 | 04 | 03 | 4 | 307 | 12 03 n | 142 10 w |
| 02 | 05 | 890822 | 19.45 | 07 | 56 | 67 | 04 | 02 | 4 | 307 | 12 04 n | 142 12 w |
| 02 | 06 | 890822 | 19.45 | 55 | 71 | 73 | 04 | 02 | 4 | 307 | 12 08 n | 142 18 w |
| 02 | 07 | 890822 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 307 | 12 08 n | 142 18 w |
| 02 | 08 | 890822 | 19.45 | 71 | 73 | 55 | 05 | 01 | 4 | 307 | 12 08 n | 142 18 w |
| 02 | 09 | 890822 | 19.45 | 73 | 55 | 71 | 05 | 01 | 4 | 307 | 12 08 n | 142 18 w |
| 03 | 01 | 890822 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 307 | 12 08 n | 142 18 w |
| 03 | 02 | 890822 | 19.45 | 67 | 07 | 56 | 05 | 01 | 4 | 307 | 12 08 n | 142 18 w |
| 03 | 03 | 890822 | 19.45 | 07 | 56 | 67 | 05 | 12 | 4 | 307 | 12 08 n | 142 18 w |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg | |
|--------|-----|--------|----------------|-------------------|-----------------------------|---------------|------------------|--------------------------------|--------------|-----|
| 03 | 04 | 890822 | 18.52 | 56 | 71 | 05 | 12 | 4 | 307 | |
| 04 | 01 | 890822 | 18.52 | 71 | 73 | 55 | 12 | 4 | 301 | |
| 04 | 02 | 890822 | 18.52 | 73 | 55 | 71 | 01 | 4 | 301 | |
| 04 | 03 | 890822 | 18.52 | 56 | 67 | 07 | 11 | 01 | 4 | 301 |
| 04 | 04 | 890822 | 18.52 | 67 | 07 | 56 | 11 | 01 | 4 | 301 |
| 04 | 05 | 890822 | 18.52 | 67 | 07 | 56 | 11 | 01 | 4 | 301 |
| 04 | 06 | 890822 | 18.52 | 67 | 07 | 56 | 11 | 01 | 4 | 301 |
| 04 | 07 | 890822 | 18.52 | 07 | 56 | 67 | 11 | 01 | 5 | 301 |
| 04 | 08 | 890822 | 18.52 | 07 | 56 | 67 | 11 | 02 | 4 | 301 |
| 04 | 09 | 890822 | 18.52 | 55 | 71 | 73 | 11 | 02 | 4 | 301 |
| 04 | 10 | 890822 | 18.52 | 71 | 73 | 55 | 11 | 02 | 4 | 301 |
| 05 | 01 | 890822 | 18.52 | 73 | 55 | 71 | 11 | 02 | 4 | 301 |
| 05 | 02 | 890822 | 18.52 | 56 | 67 | 07 | 11 | 02 | 4 | 301 |
| 05 | 03 | 890822 | 18.52 | 56 | 67 | 07 | 11 | 02 | 4 | 301 |
| 05 | 04 | 890822 | 18.52 | 67 | 07 | 56 | 11 | 02 | 4 | 301 |
| 05 | 05 | 890822 | 18.52 | 67 | 07 | 56 | 11 | 03 | 4 | 301 |
| 05 | 06 | 890822 | 18.52 | 07 | 56 | 67 | 11 | 03 | 4 | 301 |
| 05 | 07 | 890822 | 18.52 | 07 | 56 | 67 | 11 | 03 | 4 | 301 |
| 01 | 01 | 890824 | 14.82 | 67 | 07 | 56 | 07 | 04 | 305 | |
| 01 | 02 | 890824 | 14.82 | 67 | 07 | 56 | 07 | 04 | 303 | |
| 01 | 03 | 890824 | 14.82 | 07 | 56 | 67 | 07 | 04 | 303 | |
| 02 | 01 | 890824 | 14.82 | 07 | 56 | 67 | 07 | 04 | 303 | |
| 02 | 02 | 890824 | 14.82 | 07 | 56 | 67 | 07 | 04 | 303 | |
| 02 | 03 | 890824 | 14.82 | 56 | 67 | 07 | 07 | 04 | 303 | |
| 02 | 04 | 890824 | 14.82 | 56 | 67 | 07 | 07 | 04 | 303 | |
| 02 | 05 | 890824 | 14.82 | 71 | 73 | 55 | 11 | 02 | 4 | 303 |
| 02 | 06 | 890824 | 14.82 | 73 | 55 | 71 | 11 | 02 | 4 | 303 |
| 02 | 07 | 890824 | 14.82 | 55 | 71 | 73 | 11 | 02 | 4 | 303 |
| 03 | 01 | 890824 | 14.82 | 67 | 07 | 56 | 11 | 02 | 4 | 303 |
| 03 | 02 | 890824 | 14.82 | 67 | 07 | 56 | 11 | 03 | 4 | 303 |
| 03 | 03 | 890824 | 14.82 | 67 | 07 | 56 | 11 | 03 | 4 | 303 |
| 03 | 04 | 890824 | 15.74 | 07 | 56 | 67 | 11 | 03 | 4 | 303 |
| 03 | 05 | 890824 | 15.74 | 56 | 67 | 07 | 11 | 03 | 4 | 303 |
| 03 | 06 | 890824 | 15.74 | 56 | 67 | 07 | 11 | 03 | 4 | 303 |
| 01 | 01 | 890825 | 16.11 | 73 | 55 | 71 | 05 | 03 | 4 | 303 |
| 01 | 02 | 890825 | 16.11 | 55 | 71 | 73 | 05 | 03 | 4 | 303 |
| 01 | 03 | 890825 | 16.11 | 71 | 73 | 55 | 05 | 03 | 4 | 303 |
| 01 | 04 | 890825 | 16.11 | 56 | 67 | 07 | 05 | 02 | 4 | 303 |
| 01 | 05 | 890825 | 16.11 | 67 | 07 | 56 | 05 | 02 | 4 | 303 |
| 01 | 06 | 890825 | 16.11 | 07 | 56 | 67 | 05 | 02 | 4 | 303 |
| 01 | 07 | 890825 | 16.11 | 73 | 55 | 71 | 05 | 02 | 4 | 303 |
| 01 | 08 | 890825 | 16.11 | 73 | 55 | 71 | 05 | 02 | 4 | 307 |
| 01 | 09 | 890825 | 16.11 | 55 | 71 | 73 | 05 | 01 | 4 | 307 |
| 01 | 10 | 890825 | 16.11 | 71 | 73 | 55 | 05 | 01 | 4 | 307 |
| 01 | 11 | 890825 | 16.11 | 56 | 67 | 07 | 05 | 01 | 4 | 307 |
| 01 | 01 | 890901 | 18.89 | 73 | 55 | 71 | 10 | 03 | 4 | 139 |
| 01 | 02 | 890901 | 18.89 | 55 | 71 | 73 | 10 | 03 | 4 | 139 |
| 01 | 03 | 890901 | 18.89 | 71 | 73 | 55 | 10 | 02 | 4 | 139 |
| 01 | 04 | 890901 | 18.89 | 71 | 73 | 56 | 10 | 02 | 4 | 139 |
| 01 | 05 | 890901 | 18.89 | 67 | 56 | 07 | 10 | 02 | 4 | 139 |
| 01 | 06 | 890901 | 18.89 | 56 | 07 | 67 | 10 | 02 | 4 | 139 |
| 01 | 07 | 890901 | 18.89 | 07 | 67 | 56 | 11 | 02 | 4 | 139 |
| 01 | 08 | 890901 | 18.89 | 73 | 55 | 71 | 11 | 02 | 5 | 142 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | | | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|----------------|-------|------|----|--------------------------------|---------------|------------------|--------------------------------|--------------|
| | | | | left | right | rec. | | | | | | |
| 02 | 02 | 890901 | 18.89 | 55 | 71 | 73 | 11 | 12 | 5 | 142 | 17 21 n | 152 55 w |
| 02 | 03 | 890901 | 18.89 | 55 | 71 | 73 | 12 | 12 | 5 | 142 | 16 54 n | 152 34 w |
| 02 | 04 | 890901 | 18.89 | 71 | 73 | 55 | 12 | 12 | 5 | 142 | 11 03 n | 148 00 w |
| 02 | 05 | 890901 | 18.89 | 67 | 56 | 07 | 12 | 12 | 1 | 135 | 11 02 n | 147 58 w |
| 02 | 06 | 890901 | 18.89 | 56 | 07 | 67 | 12 | 12 | 5 | 142 | 10 59 n | 147 57 w |
| 02 | 07 | 890901 | 18.89 | 07 | 67 | 56 | 07 | 67 | 2 | 142 | 10 57 n | 147 54 w |
| 03 | 01 | 890901 | 18.89 | 73 | 55 | 71 | 55 | 71 | 2 | 142 | 10 57 n | 147 54 w |
| 03 | 02 | 890904 | 18.89 | 73 | 55 | 71 | 55 | 71 | 3 | 142 | 10 57 n | 147 54 w |
| 01 | 01 | 890904 | 18.52 | 07 | 67 | 55 | 07 | 67 | 3 | 142 | 10 52 n | 147 50 w |
| 02 | 01 | 890904 | 18.52 | 67 | 56 | 07 | 67 | 56 | 4 | 142 | 10 24 n | 147 26 w |
| 02 | 02 | 890904 | 18.52 | 67 | 56 | 07 | 67 | 56 | 4 | 137 | 10 13 n | 147 15 w |
| 02 | 03 | 890904 | 18.52 | 56 | 07 | 67 | 55 | 71 | 4 | 137 | 10 03 n | 146 59 w |
| 02 | 04 | 890904 | 18.52 | 07 | 73 | 55 | 07 | 73 | 3 | 142 | 10 59 n | 146 56 w |
| 02 | 05 | 890904 | 18.52 | 71 | 73 | 55 | 07 | 73 | 3 | 142 | 10 59 n | 146 56 w |
| 02 | 06 | 890904 | 18.52 | 71 | 73 | 55 | 07 | 73 | 4 | 137 | 10 24 n | 147 26 w |
| 03 | 01 | 890904 | 18.52 | 71 | 73 | 55 | 07 | 73 | 4 | 137 | 10 13 n | 147 15 w |
| 03 | 02 | 890904 | 18.52 | 73 | 55 | 71 | 55 | 71 | 4 | 137 | 10 03 n | 146 59 w |
| 04 | 01 | 890904 | 18.52 | 55 | 71 | 55 | 07 | 67 | 3 | 142 | 10 59 n | 146 56 w |
| 05 | 01 | 890904 | 18.52 | 07 | 67 | 56 | 07 | 67 | 3 | 142 | 10 59 n | 146 56 w |
| 05 | 02 | 890904 | 18.52 | 67 | 56 | 07 | 67 | 56 | 3 | 142 | 10 59 n | 146 56 w |
| 05 | 03 | 890904 | 18.52 | 56 | 07 | 67 | 55 | 71 | 3 | 142 | 09 55 n | 146 56 w |
| 06 | 01 | 890904 | 18.52 | 71 | 73 | 55 | 07 | 73 | 4 | 142 | 09 53 n | 146 55 w |
| 06 | 02 | 890904 | 18.52 | 71 | 73 | 55 | 07 | 73 | 4 | 142 | 09 53 n | 146 55 w |
| 06 | 03 | 890904 | 18.52 | 73 | 55 | 71 | 04 | 04 | 02 | 137 | 09 51 n | 146 52 w |
| 06 | 04 | 890904 | 18.52 | 73 | 55 | 71 | 04 | 04 | 02 | 137 | 09 51 n | 146 52 w |
| 06 | 05 | 890904 | 18.52 | 67 | 56 | 07 | 67 | 56 | 3 | 142 | 09 51 n | 146 52 w |
| 06 | 06 | 890904 | 18.52 | 56 | 07 | 67 | 55 | 71 | 3 | 142 | 09 51 n | 146 52 w |
| 06 | 07 | 890904 | 18.52 | 55 | 71 | 73 | 55 | 71 | 3 | 142 | 09 51 n | 146 52 w |
| 06 | 08 | 890904 | 18.52 | 07 | 67 | 56 | 07 | 67 | 3 | 142 | 09 51 n | 146 52 w |
| 07 | 01 | 890904 | 18.52 | 55 | 71 | 73 | 55 | 71 | 3 | 142 | 09 45 n | 146 50 w |
| 07 | 02 | 890904 | 18.52 | 07 | 67 | 56 | 07 | 67 | 3 | 142 | 09 46 n | 146 48 w |
| 07 | 03 | 890904 | 18.52 | 67 | 56 | 07 | 67 | 56 | 3 | 142 | 09 36 n | 146 42 w |
| 08 | 01 | 890904 | 18.52 | 56 | 07 | 67 | 57 | 71 | 3 | 142 | 09 35 n | 146 41 w |
| 08 | 02 | 890904 | 18.52 | 56 | 07 | 67 | 57 | 71 | 3 | 150 | 08 45 n | 145 41 w |
| 01 | 01 | 890905 | 18.52 | 55 | 71 | 73 | 10 | 03 | 3 | 150 | 08 41 n | 145 39 w |
| 01 | 02 | 890905 | 18.52 | 55 | 71 | 73 | 55 | 71 | 03 | 150 | 08 41 n | 145 39 w |
| 01 | 03 | 890905 | 18.52 | 71 | 73 | 55 | 10 | 03 | 4 | 150 | 08 41 n | 145 39 w |
| 01 | 04 | 890905 | 18.52 | 73 | 55 | 71 | 10 | 03 | 4 | 150 | 08 41 n | 145 39 w |
| 01 | 05 | 890905 | 18.52 | 73 | 55 | 71 | 10 | 02 | 4 | 150 | 08 33 n | 145 33 w |
| 01 | 06 | 890905 | 18.52 | 56 | 07 | 67 | 10 | 02 | 4 | 150 | 08 33 n | 145 33 w |
| 01 | 07 | 890905 | 18.52 | 07 | 67 | 56 | 07 | 67 | 4 | 150 | 08 33 n | 145 33 w |
| 01 | 08 | 890905 | 18.52 | 67 | 56 | 07 | 67 | 56 | 4 | 150 | 08 14 n | 145 20 w |
| 01 | 09 | 890905 | 18.52 | 55 | 71 | 73 | 10 | 01 | 4 | 150 | 08 14 n | 145 20 w |
| 01 | 10 | 890905 | 18.52 | 71 | 73 | 55 | 10 | 01 | 4 | 150 | 08 04 n | 145 13 w |
| 01 | 11 | 890905 | 18.52 | 71 | 73 | 55 | 10 | 01 | 4 | 142 | 08 04 n | 145 13 w |
| 01 | 12 | 890905 | 18.52 | 73 | 55 | 71 | 11 | 01 | 4 | 142 | 07 54 n | 145 00 w |
| 01 | 13 | 890905 | 18.52 | 73 | 55 | 71 | 11 | 12 | 4 | 142 | 07 58 n | 145 03 w |
| 01 | 14 | 890905 | 18.52 | 56 | 07 | 67 | 12 | 12 | 4 | 142 | 07 49 n | 144 55 w |
| 02 | 01 | 890905 | 18.52 | 07 | 67 | 56 | 04 | 12 | 4 | 142 | 07 42 n | 144 55 w |
| 02 | 02 | 890905 | 18.52 | 07 | 67 | 56 | 04 | 12 | 4 | 142 | 07 37 n | 144 50 w |
| 02 | 03 | 890905 | 18.52 | 67 | 56 | 07 | 67 | 56 | 5 | 116 | 07 37 n | 144 44 w |
| 03 | 01 | 890905 | 18.52 | 55 | 71 | 73 | 55 | 71 | 5 | 116 | 07 33 n | 144 38 w |
| 03 | 02 | 890905 | 18.52 | 56 | 07 | 67 | 56 | 71 | 5 | 116 | 07 33 n | 144 38 w |
| 04 | 03 | 890905 | 18.52 | 56 | 07 | 67 | 56 | 71 | 5 | 116 | 07 33 n | 144 38 w |
| 04 | 04 | 890905 | 18.52 | 56 | 07 | 67 | 56 | 71 | 5 | 116 | 07 33 n | 144 38 w |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------------------------|---------------|------------------|-----------------------------------|--------------|
| 05 | 01 | 890905 | 18.52 | 55 | 71 | 73 | 05 | 03 | 4.63 |
| 05 | 02 | 890905 | 18.52 | 71 | 73 | 55 | 05 | 03 | 6.17 |
| 05 | 03 | 890905 | 18.52 | 73 | 55 | 71 | 05 | 03 | 7.72 |
| 05 | 04 | 890905 | 18.52 | 73 | 55 | 71 | 05 | 03 | 0.31 |
| 05 | 01 | 890906 | 18.52 | 67 | 56 | 07 | 11 | 03 | 4.63 |
| 01 | 02 | 890906 | 18.52 | 67 | 56 | 07 | 11 | 03 | 6.17 |
| 01 | 03 | 890906 | 18.52 | 67 | 56 | 07 | 11 | 03 | 1.54 |
| 01 | 04 | 890906 | 18.52 | 56 | 07 | 67 | 11 | 02 | 7.10 |
| 01 | 05 | 890906 | 18.52 | 56 | 07 | 67 | 11 | 02 | 0.62 |
| 01 | 01 | 890906 | 18.52 | 07 | 67 | 56 | 11 | 02 | 1.54 |
| 01 | 07 | 890906 | 18.52 | 07 | 67 | 56 | 11 | 02 | 6.17 |
| 01 | 08 | 890906 | 18.52 | 73 | 55 | 71 | 11 | 02 | 4.17 |
| 01 | 09 | 890906 | 18.52 | 55 | 71 | 73 | 11 | 02 | 1.85 |
| 02 | 01 | 890906 | 19.63 | 71 | 73 | 11 | 02 | 4 | 8.18 |
| 02 | 02 | 890906 | 19.63 | 71 | 73 | 55 | 11 | 02 | 13.09 |
| 02 | 03 | 890906 | 19.63 | 67 | 56 | 07 | 11 | 01 | 13.09 |
| 02 | 04 | 890906 | 19.63 | 56 | 07 | 67 | 11 | 01 | 13.09 |
| 02 | 05 | 890906 | 19.63 | 07 | 67 | 56 | 11 | 12 | 2.94 |
| 02 | 06 | 890906 | 19.63 | 07 | 67 | 56 | 11 | 12 | 2.94 |
| 02 | 07 | 890906 | 19.63 | 07 | 67 | 56 | 11 | 12 | 3.93 |
| 02 | 08 | 890906 | 19.63 | 07 | 67 | 56 | 11 | 12 | 1.64 |
| 02 | 09 | 890906 | 19.63 | 07 | 67 | 56 | 11 | 12 | 2.94 |
| 02 | 10 | 890906 | 19.63 | 73 | 55 | 71 | 11 | 12 | 10.14 |
| 02 | 11 | 890906 | 19.63 | 73 | 55 | 71 | 11 | 12 | 6.54 |
| 02 | 12 | 890906 | 19.63 | 55 | 71 | 73 | 05 | 12 | 6.54 |
| 02 | 13 | 890906 | 19.63 | 55 | 71 | 73 | 05 | 01 | 9.82 |
| 02 | 14 | 890906 | 19.63 | 71 | 73 | 55 | 05 | 01 | 1.31 |
| 02 | 15 | 890906 | 19.63 | 71 | 73 | 55 | 05 | 01 | 1.96 |
| 02 | 16 | 890906 | 19.63 | 71 | 73 | 55 | 05 | 01 | 12.11 |
| 02 | 17 | 890906 | 19.63 | 67 | 56 | 07 | 05 | 01 | 14.40 |
| 02 | 18 | 890906 | 19.63 | 56 | 07 | 67 | 05 | 01 | 9.16 |
| 02 | 19 | 890906 | 19.63 | 07 | 67 | 56 | 05 | 02 | 1.31 |
| 02 | 20 | 890906 | 19.63 | 07 | 67 | 56 | 05 | 02 | 2.29 |
| 02 | 21 | 890906 | 19.63 | 07 | 67 | 56 | 05 | 02 | 9.82 |
| 02 | 22 | 890906 | 19.63 | 73 | 55 | 71 | 05 | 02 | 6.54 |
| 02 | 23 | 890906 | 19.63 | 55 | 71 | 73 | 05 | 02 | 3.27 |
| 02 | 24 | 890906 | 19.63 | 55 | 71 | 73 | 05 | 02 | 11.45 |
| 02 | 25 | 890906 | 19.63 | 71 | 73 | 55 | 07 | 05 | 13.09 |
| 02 | 26 | 890906 | 19.63 | 67 | 56 | 07 | 67 | 05 | 13.09 |
| 02 | 27 | 890906 | 19.63 | 56 | 07 | 67 | 56 | 07 | 13.09 |
| 02 | 28 | 890906 | 19.63 | 07 | 67 | 56 | 07 | 67 | 13.09 |
| 02 | 29 | 890906 | 19.63 | 07 | 67 | 56 | 07 | 67 | 7.85 |
| 01 | 01 | 890907 | 19.63 | 71 | 73 | 55 | 11 | 03 | 5.56 |
| 01 | 02 | 890907 | 19.63 | 71 | 73 | 55 | 11 | 03 | 11.45 |
| 01 | 03 | 890907 | 19.63 | 73 | 55 | 71 | 11 | 03 | 13.09 |
| 01 | 04 | 890907 | 19.63 | 73 | 55 | 71 | 11 | 03 | 13.09 |
| 01 | 05 | 890907 | 19.63 | 73 | 55 | 71 | 11 | 03 | 1.96 |
| 01 | 06 | 890907 | 19.63 | 55 | 71 | 73 | 11 | 02 | 13.09 |
| 01 | 07 | 890907 | 19.63 | 07 | 67 | 56 | 11 | 02 | 13.09 |
| 01 | 08 | 890907 | 19.63 | 67 | 56 | 07 | 11 | 02 | 13.09 |
| 01 | 09 | 890907 | 19.63 | 56 | 07 | 67 | 11 | 01 | 13.09 |
| 01 | 10 | 890907 | 19.63 | 07 | 67 | 56 | 11 | 01 | 13.09 |
| 01 | 11 | 890907 | 19.63 | 73 | 55 | 71 | 11 | 01 | 7.85 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | | | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | |
|--------|-----|--------|----------------|----------------|-------|------|----|--------------------------------|---------------|------------------|----------------------|-----------------------|--------------|----|
| | | | | left | right | rec. | | | | | | | | |
| 02 | 01 | 890907 | 19.63 | 55 | 71 | 73 | 12 | 12 | 4 | 116 | 04 59 n | 139 16 w | 6.54 | |
| 03 | 01 | 890907 | 19.63 | 55 | 71 | 73 | 12 | 12 | 4 | 116 | 04 58 n | 139 13 w | 3.60 | |
| 03 | 02 | 890907 | 19.63 | 07 | 67 | 56 | 12 | 12 | 4 | 116 | 04 57 n | 139 11 w | 10.80 | |
| 03 | 03 | 890907 | 19.63 | 07 | 67 | 56 | 07 | 12 | 4 | 116 | 04 56 n | 139 11 w | 1.96 | |
| 03 | 04 | 890907 | 19.63 | 67 | 56 | 07 | 12 | 12 | 5 | 086 | 04 54 n | 139 05 w | 6.87 | |
| 03 | 05 | 890907 | 19.63 | 67 | 56 | 07 | 12 | 12 | 5 | 094 | 04 55 n | 139 01 w | 6.54 | |
| 03 | 06 | 890907 | 19.63 | 56 | 07 | 67 | 06 | 01 | 4 | 094 | 04 54 n | 138 51 w | 13.09 | |
| 03 | 07 | 890907 | 19.63 | 71 | 73 | 55 | 06 | 01 | 4 | 094 | 04 54 n | 138 51 w | 8.51 | |
| 03 | 08 | 890907 | 19.63 | 71 | 73 | 55 | 06 | 01 | 4 | 094 | 04 54 n | 138 51 w | 2.94 | |
| 03 | 09 | 890907 | 19.63 | 71 | 73 | 55 | 06 | 01 | 4 | 094 | 04 54 n | 138 51 w | 1.64 | |
| 03 | 10 | 890907 | 19.63 | 73 | 55 | 71 | 06 | 01 | 4 | 094 | 04 54 n | 138 42 w | 3.27 | |
| 04 | 01 | 890907 | 19.63 | 73 | 55 | 71 | 06 | 02 | 4 | 094 | 04 54 n | 138 35 w | 3.93 | |
| 04 | 02 | 890907 | 19.63 | 55 | 71 | 73 | 06 | 02 | 4 | 094 | 04 54 n | 138 32 w | 6.54 | |
| 05 | 01 | 890907 | 19.63 | 55 | 71 | 73 | 06 | 02 | 4 | 094 | 04 54 n | 138 30 w | 4.91 | |
| 05 | 02 | 890907 | 19.63 | 07 | 67 | 56 | 06 | 02 | 4 | 094 | 04 54 n | 138 28 w | 2.62 | |
| 05 | 05 | 890907 | 19.63 | 67 | 56 | 06 | 02 | 02 | 4 | 094 | 04 54 n | 138 27 w | 3.27 | |
| 06 | 01 | 890907 | 19.63 | 72 | 67 | 56 | 06 | 02 | 4 | 086 | 04 53 n | 138 26 w | 2.29 | |
| 06 | 02 | 890907 | 19.63 | 72 | 67 | 56 | 06 | 02 | 4 | 086 | 04 53 n | 138 25 w | 6.22 | |
| 06 | 03 | 890907 | 19.63 | 67 | 56 | 72 | 06 | 02 | 4 | 086 | 04 53 n | 138 24 w | 3.70 | |
| 07 | 01 | 890907 | 19.63 | 71 | 73 | 55 | 06 | 02 | 4 | 086 | 04 53 n | 138 23 w | 2.29 | |
| 07 | 02 | 890907 | 19.63 | 71 | 73 | 55 | 06 | 02 | 4 | 086 | 04 53 n | 138 23 w | 0.33 | |
| 07 | 01 | 890908 | 18.52 | 56 | 72 | 67 | 06 | 02 | 4 | 086 | 05 01 n | 137 03 w | 3.09 | |
| 02 | 01 | 890908 | 18.52 | 56 | 72 | 67 | 06 | 02 | 4 | 086 | 05 01 n | 136 59 w | 3.09 | |
| 02 | 02 | 890908 | 18.52 | 72 | 67 | 56 | 06 | 02 | 4 | 086 | 05 01 n | 136 59 w | 3.70 | |
| 03 | 01 | 890908 | 17.96 | 56 | 07 | 67 | 06 | 02 | 4 | 093 | 05 05 n | 136 23 w | 5.99 | |
| 03 | 02 | 890908 | 17.96 | 07 | 67 | 56 | 06 | 02 | 4 | 093 | 05 05 n | 136 23 w | 5.99 | |
| 03 | 03 | 890908 | 17.96 | 67 | 56 | 07 | 06 | 02 | 4 | 093 | 05 05 n | 136 23 w | 5.99 | |
| 03 | 04 | 890908 | 17.96 | 67 | 56 | 07 | 06 | 02 | 4 | 093 | 05 05 n | 136 23 w | 5.99 | |
| 03 | 05 | 890909 | 16.67 | 55 | 71 | 73 | 06 | 02 | 4 | 084 | 05 14 n | 133 39 w | 1.94 | |
| 01 | 01 | 890909 | 16.67 | 55 | 71 | 73 | 06 | 02 | 4 | 084 | 05 14 n | 133 39 w | 3.61 | |
| 01 | 02 | 890909 | 16.67 | 55 | 71 | 73 | 06 | 02 | 4 | 084 | 05 14 n | 133 39 w | 2.78 | |
| 01 | 03 | 890909 | 16.67 | 55 | 71 | 73 | 12 | 03 | 4 | 084 | 05 14 n | 133 34 w | 6.94 | |
| 01 | 04 | 890909 | 16.67 | 71 | 73 | 55 | 06 | 02 | 4 | 084 | 05 14 n | 133 34 w | 1.39 | |
| 01 | 05 | 890909 | 16.67 | 71 | 73 | 55 | 06 | 02 | 4 | 084 | 05 15 n | 133 29 w | 2.78 | |
| 01 | 06 | 890909 | 16.67 | 67 | 56 | 07 | 06 | 02 | 4 | 088 | 05 18 n | 133 28 w | 7.62 | |
| 02 | 01 | 890909 | 17.59 | 56 | 07 | 67 | 06 | 02 | 4 | 090 | 05 18 n | 133 24 w | 4.11 | |
| 02 | 02 | 890909 | 17.59 | 56 | 07 | 67 | 06 | 02 | 4 | 120 | 05 18 n | 133 24 w | 6.45 | |
| 02 | 03 | 890909 | 17.59 | 07 | 67 | 56 | 11 | 02 | 4 | 120 | 05 16 n | 133 19 w | 2.12 | |
| 03 | 01 | 890909 | 18.15 | 07 | 67 | 56 | 11 | 02 | 4 | 120 | 05 15 n | 133 18 w | 6.05 | |
| 03 | 02 | 890909 | 18.15 | 55 | 71 | 73 | 11 | 01 | 4 | 120 | 05 15 n | 133 18 w | 2.12 | |
| 03 | 03 | 890909 | 18.15 | 55 | 71 | 73 | 11 | 01 | 4 | 120 | 05 15 n | 133 18 w | 3.93 | |
| 03 | 04 | 890909 | 18.15 | 55 | 71 | 73 | 11 | 01 | 4 | 120 | 05 10 n | 133 09 w | 5.44 | |
| 03 | 05 | 890909 | 18.15 | 71 | 73 | 55 | 12 | 01 | 4 | 084 | 05 12 n | 132 59 w | 11.80 | |
| 03 | 06 | 890909 | 18.15 | 55 | 71 | 73 | 06 | 01 | 4 | 084 | 05 12 n | 132 59 w | 12.10 | |
| 03 | 07 | 890909 | 18.15 | 55 | 71 | 73 | 06 | 01 | 4 | 084 | 05 12 n | 132 39 w | 12.40 | |
| 03 | 08 | 890909 | 18.15 | 67 | 56 | 07 | 06 | 01 | 4 | 084 | 05 14 n | 132 42 w | 5.75 | |
| 03 | 09 | 890909 | 18.15 | 56 | 07 | 67 | 06 | 01 | 4 | 084 | 05 14 n | 132 42 w | 4.84 | |
| 04 | 01 | 890909 | 18.15 | 07 | 67 | 56 | 06 | 01 | 4 | 084 | 05 17 n | 132 18 w | 9.07 | |
| 04 | 02 | 890909 | 18.15 | 55 | 71 | 73 | 06 | 02 | 4 | 089 | 05 17 n | 132 14 w | 3.63 | |
| 04 | 03 | 890909 | 18.15 | 07 | 67 | 56 | 07 | 06 | 02 | 4 | 089 | 05 17 n | 132 09 w | 02 |
| 04 | 04 | 890909 | 18.15 | 55 | 71 | 73 | 06 | 02 | 4 | 089 | 05 17 n | 132 09 w | 02 | |
| 04 | 05 | 890909 | 18.15 | 71 | 73 | 55 | 06 | 02 | 4 | 089 | 05 17 n | 132 09 w | 02 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes left right rec. | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|--------------------------------------|-----------------------------|---------------|------------------|--------------------------------|--------------|
| 05 | 03 | 890909 | 18.15 | 07 | 56 | 4 | 089 | 05 18 n 132 04 w | 5.44 |
| 05 | 04 | 890909 | 18.15 | 55 | 72 | 4 | 089 | 06 01 n 130 49 w | 6.05 |
| 05 | 05 | 890909 | 18.15 | 72 | 73 | 4 | 089 | 06 01 n 131 52 w | 6.05 |
| 05 | 06 | 890909 | 18.15 | 73 | 55 | 4 | 089 | 06 19 n 130 39 w | 9.68 |
| 05 | 07 | 890909 | 18.15 | 73 | 55 | 4 | 089 | 06 15 n 130 31 w | 0.30 |
| 01 | 01 | 890910 | 18.89 | 07 | 56 | 01 | 03 | 04 04 n 130 27 w | 8.50 |
| 01 | 02 | 890910 | 18.89 | 67 | 56 | 01 | 03 | 04 04 n 130 24 w | 9.13 |
| 01 | 03 | 890910 | 19.63 | 56 | 07 | 01 | 03 | 04 04 n 130 24 w | 8.18 |
| 01 | 04 | 890910 | 19.63 | 73 | 55 | 01 | 02 | 04 04 n 130 24 w | 10.80 |
| 02 | 01 | 890910 | 19.63 | 55 | 72 | 01 | 02 | 04 04 n 130 24 w | 13.09 |
| 02 | 02 | 890910 | 19.63 | 72 | 73 | 01 | 02 | 04 04 n 130 24 w | 8.83 |
| 02 | 03 | 890910 | 19.63 | 71 | 55 | 02 | 02 | 04 04 n 130 24 w | 11.12 |
| 02 | 04 | 890910 | 19.63 | 67 | 56 | 02 | 01 | 04 04 n 130 24 w | 13.09 |
| 02 | 05 | 890910 | 19.63 | 56 | 07 | 07 | 02 | 04 04 n 130 24 w | 12.11 |
| 03 | 01 | 890910 | 19.63 | 73 | 55 | 71 | 01 | 05 04 n 129 58 w | 10.47 |
| 03 | 02 | 890910 | 19.63 | 55 | 71 | 73 | 02 | 05 04 n 129 58 w | 5.56 |
| 03 | 03 | 890910 | 19.63 | 72 | 71 | 73 | 05 | 04 04 n 129 58 w | 4.25 |
| 03 | 04 | 890910 | 19.63 | 71 | 73 | 72 | 05 | 04 04 n 129 58 w | 2.29 |
| 03 | 05 | 890910 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 129 58 w | 3.60 |
| 04 | 01 | 890910 | 19.63 | 07 | 67 | 56 | 07 | 05 04 n 129 58 w | 12.11 |
| 04 | 02 | 890910 | 19.63 | 07 | 72 | 56 | 05 | 04 04 n 129 58 w | 0.98 |
| 04 | 03 | 890910 | 19.63 | 72 | 56 | 07 | 05 | 04 04 n 129 58 w | 7.85 |
| 04 | 04 | 890910 | 19.63 | 72 | 56 | 07 | 05 | 04 04 n 129 58 w | 5.23 |
| 04 | 05 | 890910 | 19.63 | 56 | 07 | 72 | 05 | 04 04 n 129 58 w | 9.82 |
| 04 | 06 | 890910 | 19.63 | 73 | 55 | 71 | 05 | 04 04 n 129 58 w | 5.89 |
| 04 | 07 | 890910 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 129 58 w | 13.09 |
| 04 | 08 | 890910 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 129 58 w | 3.93 |
| 04 | 09 | 890910 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 129 58 w | 4.25 |
| 04 | 10 | 890910 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 129 58 w | 1.96 |
| 05 | 01 | 890910 | 19.63 | 07 | 72 | 56 | 05 | 04 04 n 129 58 w | 2.29 |
| 05 | 02 | 890910 | 19.63 | 07 | 72 | 56 | 05 | 04 04 n 129 58 w | 0.33 |
| 01 | 01 | 890912 | 19.63 | 56 | 07 | 67 | 05 | 04 04 n 125 33 w | 6.54 |
| 01 | 02 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 125 33 w | 4.91 |
| 01 | 03 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 125 33 w | 13.09 |
| 01 | 04 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 125 33 w | 5.23 |
| 02 | 01 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 125 33 w | 1.64 |
| 02 | 02 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 125 33 w | 2.62 |
| 02 | 03 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 125 33 w | 10.14 |
| 02 | 04 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 125 33 w | 6.54 |
| 03 | 01 | 890912 | 19.63 | 73 | 55 | 71 | 02 | 05 04 n 125 12 w | 6.54 |
| 03 | 02 | 890912 | 19.63 | 55 | 71 | 73 | 02 | 05 04 n 125 12 w | 6.54 |
| 03 | 03 | 890912 | 19.63 | 56 | 07 | 67 | 02 | 05 04 n 125 10 w | 6.54 |
| 03 | 04 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 125 10 w | 2.62 |
| 04 | 01 | 890912 | 19.63 | 67 | 56 | 07 | 05 | 04 04 n 125 10 w | 6.54 |
| 05 | 02 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 124 33 w | 6.54 |
| 05 | 03 | 890912 | 19.63 | 73 | 55 | 71 | 02 | 05 04 04 n 124 33 w | 6.54 |
| 05 | 04 | 890912 | 19.63 | 55 | 71 | 73 | 02 | 05 04 04 n 124 33 w | 6.54 |
| 06 | 01 | 890912 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 124 33 w | 3.60 |
| 06 | 02 | 890912 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 124 33 w | 6.54 |
| 06 | 03 | 890912 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 124 33 w | 6.54 |
| 06 | 04 | 890912 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 124 33 w | 6.54 |
| 07 | 01 | 890912 | 19.63 | 56 | 07 | 67 | 05 | 04 04 n 124 33 w | 0.65 |
| 07 | 02 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 124 33 w | 6.54 |
| 07 | 03 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 124 33 w | 6.54 |
| 07 | 04 | 890912 | 19.63 | 07 | 67 | 56 | 05 | 04 04 n 124 33 w | 6.54 |
| 08 | 01 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 124 11 w | 7.85 |
| 08 | 02 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 124 11 w | 1.96 |
| 08 | 03 | 890912 | 19.63 | 71 | 73 | 55 | 05 | 04 04 n 124 06 w | 9.82 |
| 08 | 04 | 890912 | 19.63 | 55 | 71 | 73 | 05 | 04 04 n 124 06 w | 3.27 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position km in leg |
|--------|-----|--------|----------------|----------------|--------------|---------------|------------------|----------------------------|
| | | | | left | right | rec. | horz. vert. | |
| 08 | 05 | 890912 | 19.63 | 55 | 71 | 73 | 4 | 116 04 59 n 124 03 w 6.54 |
| 08 | 06 | 890912 | 19.63 | 56 | 67 | 56 | 5 | 116 04 57 n 124 00 w 8.18 |
| 08 | 07 | 890912 | 19.63 | 07 | 67 | 56 | 5 | 116 04 54 n 123 53 w 5.89 |
| 08 | 08 | 890912 | 19.63 | 07 | 67 | 56 | 4 | 100 04 33 n 122 48 w 0.33 |
| 01 | 01 | 890913 | 19.45 | 55 | 71 | 73 | 4 | 100 04 32 n 122 47 w 3.57 |
| 01 | 02 | 890913 | 19.45 | 55 | 71 | 73 | 4 | 097 04 32 n 122 47 w 7.78 |
| 01 | 03 | 890913 | 19.45 | 55 | 71 | 73 | 3 | 097 04 31 n 122 39 w 1.62 |
| 01 | 04 | 890913 | 19.45 | 71 | 73 | 55 | 4 | 097 04 31 n 122 39 w 6.48 |
| 01 | 05 | 890913 | 19.45 | 71 | 73 | 55 | 4 | 097 04 31 n 122 39 w 3.57 |
| 01 | 06 | 890913 | 19.45 | 71 | 73 | 55 | 3 | 097 04 31 n 122 39 w 4.21 |
| 01 | 07 | 890913 | 19.45 | 73 | 55 | 71 | 3 | 097 04 31 n 122 39 w 11.67 |
| 02 | 01 | 890913 | 19.45 | 67 | 56 | 07 | 2 | 097 04 26 n 122 26 w 9.72 |
| 02 | 02 | 890913 | 19.45 | 56 | 07 | 67 | 2 | 090 04 25 n 122 22 w 2.27 |
| 02 | 03 | 890913 | 19.45 | 56 | 07 | 67 | 2 | 090 04 25 n 122 22 w 3.24 |
| 02 | 04 | 890913 | 19.45 | 56 | 07 | 67 | 1 | 090 04 24 n 122 17 w 4.21 |
| 02 | 05 | 890913 | 19.45 | 56 | 07 | 67 | 1 | 090 04 24 n 122 17 w 12.96 |
| 02 | 06 | 890913 | 19.45 | 55 | 71 | 73 | 1 | 090 04 24 n 122 12 w 13.29 |
| 02 | 07 | 890913 | 19.45 | 71 | 73 | 55 | 1 | 090 04 24 n 122 12 w 2.59 |
| 02 | 08 | 890913 | 19.45 | 73 | 55 | 71 | 0 | 090 04 22 n 121 57 w 5.83 |
| 03 | 01 | 890913 | 19.45 | 73 | 55 | 71 | 12 | 090 04 21 n 121 55 w 1.62 |
| 03 | 02 | 890913 | 19.45 | 73 | 55 | 71 | 12 | 090 04 21 n 121 54 w 1.94 |
| 03 | 03 | 890913 | 19.45 | 67 | 56 | 07 | 12 | 090 04 22 n 121 51 w 6.48 |
| 04 | 01 | 890913 | 19.45 | 67 | 56 | 07 | 12 | 090 04 22 n 121 51 w 4.86 |
| 04 | 02 | 890913 | 19.45 | 56 | 07 | 67 | 12 | 090 04 21 n 121 50 w 1.62 |
| 04 | 03 | 890913 | 19.45 | 56 | 07 | 67 | 06 | 090 04 21 n 121 45 w 6.48 |
| 04 | 04 | 890913 | 19.45 | 07 | 67 | 56 | 06 | 090 04 19 n 121 36 w 6.48 |
| 05 | 01 | 890913 | 19.45 | 55 | 71 | 73 | 06 | 090 04 19 n 121 36 w 6.81 |
| 05 | 02 | 890913 | 19.45 | 71 | 73 | 55 | 06 | 090 04 18 n 121 29 w 6.16 |
| 05 | 03 | 890913 | 19.45 | 73 | 55 | 71 | 06 | 090 04 16 n 121 17 w 3.89 |
| 06 | 01 | 890913 | 19.45 | 67 | 56 | 07 | 05 | 109 04 16 n 121 12 w 6.48 |
| 07 | 01 | 890913 | 19.45 | 56 | 07 | 67 | 05 | 109 04 16 n 121 12 w 2.92 |
| 07 | 02 | 890913 | 19.45 | 56 | 07 | 67 | 05 | 109 04 13 n 121 09 w 2.59 |
| 07 | 03 | 890913 | 19.45 | 07 | 67 | 56 | 05 | 109 04 11 n 121 07 w 4.21 |
| 08 | 01 | 890913 | 19.45 | 07 | 67 | 56 | 05 | 109 04 10 n 121 05 w 4.86 |
| 08 | 02 | 890913 | 19.45 | 55 | 71 | 73 | 05 | 109 04 09 n 121 01 w 2.92 |
| 08 | 03 | 890913 | 19.45 | 55 | 71 | 73 | 5 | 109 04 09 n 121 01 w 6.54 |
| 08 | 04 | 890913 | 19.45 | 55 | 71 | 73 | 5 | 098 03 53 n 119 58 w 6.54 |
| 01 | 01 | 890914 | 19.63 | 07 | 67 | 56 | 12 | 03 50 n 119 52 w 3.93 |
| 01 | 02 | 890914 | 19.63 | 67 | 56 | 07 | 12 | 03 50 n 119 52 w 6.54 |
| 02 | 03 | 890914 | 19.63 | 71 | 73 | 55 | 01 | 02 03 50 n 119 37 w 6.54 |
| 01 | 03 | 890914 | 19.63 | 67 | 56 | 07 | 12 | 03 50 n 119 09 w 4.91 |
| 01 | 04 | 890914 | 19.63 | 56 | 07 | 67 | 11 | 03 48 n 119 04 w 4.58 |
| 02 | 01 | 890914 | 19.63 | 67 | 56 | 07 | 12 | 03 48 n 119 04 w 6.54 |
| 04 | 02 | 890914 | 19.63 | 56 | 07 | 67 | 12 | 03 47 n 118 59 w 6.54 |
| 04 | 03 | 890914 | 19.63 | 73 | 55 | 71 | 12 | 03 47 n 118 59 w 6.54 |
| 04 | 04 | 890914 | 19.63 | 55 | 71 | 73 | 12 | 03 45 n 118 52 w 2.62 |
| 05 | 01 | 890914 | 19.63 | 71 | 73 | 55 | 01 | 01 03 45 n 118 40 w 10.80 |
| 06 | 01 | 890914 | 19.63 | 67 | 56 | 07 | 15 | 01 03 42 n 118 33 w 9.82 |
| 07 | 01 | 890914 | 19.63 | 67 | 56 | 07 | 15 | 01 03 40 n 118 33 w 6.22 |
| 07 | 02 | 890914 | 19.63 | 56 | 07 | 67 | 05 | 03 38 n 118 29 w |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position longitude | km in leg |
|--------|-----|--------|----------------|--------------------|-----------------------------|---------------|------------------|-----------------------|--------------|
| | | | | left right rec. | | | | | |
| 07 | 03 | 890914 | 19.63 | 56 | 07 | 67 | 02 | 4 | 3.60 |
| 07 | 04 | 890914 | 19.63 | 55 | 71 | 05 | 4 | 115 | 3.60 |
| 07 | 05 | 890914 | 19.63 | 73 | 55 | 71 | 4 | 115 | 4.58 |
| 07 | 06 | 890914 | 19.63 | 73 | 55 | 71 | 02 | 4 | 1.64 |
| 07 | 07 | 890914 | 19.63 | 55 | 71 | 05 | 4 | 115 | 2.62 |
| 07 | 07 | 08 | 890914 | 19.63 | 55 | 71 | 02 | 4 | 7.20 |
| 07 | 09 | 890914 | 19.63 | 71 | 73 | 55 | 03 | 34 n | 2.29 |
| 07 | 10 | 890914 | 19.63 | 71 | 73 | 55 | 05 | 30 n | 7.53 |
| 07 | 11 | 890914 | 19.63 | 71 | 73 | 55 | 03 | 13 n | 0.33 |
| 01 | 01 | 890915 | 18.52 | 71 | 73 | 55 | 11 | 03 | 2.47 |
| 02 | 02 | 890915 | 18.52 | 73 | 55 | 71 | 11 | 03 | 7.72 |
| 02 | 03 | 890915 | 18.52 | 55 | 71 | 73 | 11 | 03 | 6.79 |
| 02 | 04 | 890915 | 18.52 | 56 | 07 | 67 | 11 | 03 | 12.35 |
| 02 | 05 | 890915 | 18.52 | 67 | 67 | 56 | 11 | 02 | 12.35 |
| 02 | 06 | 890915 | 18.52 | 71 | 56 | 07 | 11 | 02 | 12.66 |
| 02 | 07 | 890915 | 18.52 | 73 | 55 | 71 | 11 | 01 | 12.04 |
| 02 | 08 | 890915 | 18.52 | 55 | 71 | 73 | 11 | 01 | 6.17 |
| 02 | 09 | 890915 | 18.52 | 55 | 71 | 73 | 12 | 12 | 6.17 |
| 02 | 10 | 890915 | 18.52 | 56 | 07 | 67 | 12 | 12 | 12.35 |
| 02 | 11 | 890915 | 18.52 | 07 | 67 | 56 | 12 | 5 | 6.17 |
| 02 | 12 | 890915 | 18.52 | 07 | 67 | 56 | 05 | 12 | 12.35 |
| 02 | 13 | 890915 | 18.52 | 67 | 56 | 07 | 05 | 12 | 6.48 |
| 02 | 14 | 890915 | 18.52 | 71 | 73 | 55 | 05 | 01 | 5.86 |
| 02 | 15 | 890915 | 18.52 | 73 | 55 | 71 | 05 | 01 | 6.17 |
| 02 | 16 | 890915 | 18.52 | 55 | 71 | 73 | 05 | 01 | 0.31 |
| 02 | 17 | 890915 | 18.52 | 55 | 71 | 73 | 05 | 01 | 8.75 |
| 01 | 01 | 890916 | 19.45 | 67 | 56 | 07 | 67 | 55 | 9.07 |
| 01 | 02 | 890916 | 19.45 | 56 | 07 | 67 | 56 | 05 | 8.75 |
| 01 | 03 | 890916 | 19.45 | 07 | 67 | 56 | 05 | 01 | 4.54 |
| 01 | 04 | 890916 | 19.45 | 55 | 71 | 73 | 55 | 01 | 1.94 |
| 01 | 05 | 890916 | 19.45 | 55 | 71 | 73 | 55 | 01 | 3.57 |
| 01 | 06 | 890916 | 19.45 | 71 | 56 | 07 | 12 | 02 | 6.48 |
| 02 | 01 | 890916 | 19.45 | 67 | 56 | 07 | 12 | 01 | 5.19 |
| 02 | 02 | 890916 | 19.45 | 56 | 07 | 67 | 12 | 01 | 1.30 |
| 02 | 03 | 890916 | 19.45 | 56 | 07 | 67 | 12 | 01 | 6.48 |
| 02 | 04 | 890916 | 19.45 | 07 | 67 | 56 | 12 | 01 | 2.92 |
| 02 | 05 | 890916 | 19.45 | 55 | 71 | 73 | 01 | 12 | 0.32 |
| 02 | 06 | 890916 | 19.45 | 55 | 71 | 73 | 02 | 12 | 4.86 |
| 02 | 07 | 890916 | 19.45 | 55 | 71 | 73 | 03 | 12 | 10.37 |
| 02 | 08 | 890916 | 19.45 | 55 | 71 | 73 | 04 | 12 | 6.48 |
| 02 | 09 | 890916 | 19.45 | 56 | 07 | 67 | 05 | 01 | 6.48 |
| 02 | 10 | 890916 | 19.45 | 71 | 73 | 55 | 05 | 01 | 1.62 |
| 02 | 11 | 890916 | 19.45 | 73 | 55 | 71 | 05 | 01 | 0.97 |
| 03 | 01 | 890916 | 19.45 | 73 | 55 | 71 | 05 | 01 | 9.72 |
| 05 | 02 | 890916 | 19.45 | 67 | 56 | 07 | 05 | 02 | 6.48 |
| 05 | 03 | 890916 | 19.45 | 67 | 56 | 07 | 05 | 03 | 7.45 |
| 05 | 04 | 890916 | 19.45 | 07 | 67 | 56 | 07 | 05 | 3.24 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. rec. | position (deg.) | course no. | beauf. vert. | latitude longitude in leg | km |
|--------|-----|--------|----------------|-------------------|----------------------------|--------------------|---------------|-----------------|---------------------------------|-------|
| 05 | 05 | 890916 | 19.45 | 07 | 67 | 56 | 5 | 096 | 02 26 n | 0.32 |
| 01 | 01 | 890917 | 18.52 | 73 | 55 | 71 | 11 | 03 | 110 02 29 n | 4.63 |
| 01 | 02 | 890917 | 18.52 | 73 | 55 | 71 | 07 | 05 | 110 02 28 n | 1.54 |
| 01 | 03 | 890917 | 18.52 | 73 | 55 | 71 | 07 | 05 | 110 02 28 n | 5.25 |
| 01 | 04 | 890917 | 18.52 | 55 | 71 | 73 | 11 | 03 | 110 02 26 n | 2.47 |
| 01 | 05 | 890917 | 18.52 | 55 | 71 | 73 | 11 | 03 | 110 02 26 n | 6.17 |
| 02 | 01 | 890917 | 18.52 | 55 | 71 | 73 | 11 | 03 | 110 02 25 n | 2.16 |
| 02 | 02 | 890917 | 18.52 | 71 | 73 | 55 | 11 | 03 | 110 02 25 n | 11.11 |
| 02 | 03 | 890917 | 18.52 | 07 | 67 | 56 | 12 | 02 | 102 02 25 n | 4.01 |
| 02 | 04 | 890917 | 18.52 | 07 | 67 | 56 | 12 | 02 | 102 02 25 n | 2.16 |
| 02 | 05 | 890917 | 18.52 | 67 | 56 | 07 | 12 | 02 | 102 02 23 n | 1.54 |
| 02 | 06 | 890917 | 18.52 | 67 | 56 | 07 | 12 | 02 | 102 02 23 n | 4.63 |
| 02 | 07 | 890917 | 18.52 | 56 | 07 | 67 | 12 | 02 | 102 02 18 n | 2.16 |
| 02 | 08 | 890917 | 18.52 | 56 | 07 | 67 | 12 | 02 | 102 02 19 n | 1.54 |
| 02 | 09 | 890917 | 18.52 | 56 | 07 | 67 | 12 | 02 | 102 02 19 n | 2.47 |
| 02 | 10 | 890917 | 18.52 | 56 | 07 | 67 | 12 | 02 | 102 02 18 n | 0.31 |
| 01 | 01 | 890918 | 19.45 | 56 | 07 | 67 | 12 | 02 | 102 02 18 n | 8.75 |
| 02 | 01 | 890918 | 19.45 | 07 | 67 | 56 | 12 | 02 | 108 02 19 n | 9.72 |
| 02 | 02 | 890918 | 19.45 | 07 | 67 | 56 | 12 | 02 | 108 02 19 n | 0.97 |
| 02 | 03 | 890918 | 19.45 | 71 | 73 | 55 | 04 | 090 | 02 19 n | 10.05 |
| 02 | 04 | 890918 | 19.45 | 71 | 73 | 55 | 04 | 090 | 02 19 n | 10.05 |
| 02 | 05 | 890918 | 19.45 | 71 | 73 | 55 | 05 | 085 | 02 19 n | 10.05 |
| 02 | 06 | 890918 | 19.45 | 71 | 73 | 55 | 05 | 092 | 02 19 n | 10.05 |
| 02 | 07 | 890918 | 19.45 | 73 | 55 | 71 | 12 | 02 | 108 02 18 n | 1.30 |
| 03 | 01 | 890918 | 19.45 | 73 | 55 | 71 | 12 | 02 | 108 02 17 n | 3.24 |
| 03 | 02 | 890918 | 19.45 | 55 | 71 | 73 | 12 | 02 | 108 02 17 n | 9.72 |
| 03 | 03 | 890918 | 19.45 | 55 | 71 | 73 | 12 | 01 | 092 02 17 n | 3.89 |
| 03 | 04 | 890918 | 19.45 | 56 | 07 | 67 | 12 | 01 | 092 02 17 n | 3.89 |
| 04 | 01 | 890918 | 19.45 | 07 | 67 | 56 | 07 | 05 | 092 02 17 n | 1.30 |
| 04 | 02 | 890918 | 19.45 | 67 | 56 | 07 | 12 | 01 | 088 02 17 n | 3.24 |
| 04 | 03 | 890918 | 19.45 | 56 | 07 | 67 | 12 | 01 | 088 02 17 n | 9.72 |
| 04 | 04 | 890918 | 19.45 | 07 | 67 | 56 | 07 | 05 | 088 02 17 n | 6.48 |
| 05 | 01 | 890918 | 19.45 | 07 | 67 | 56 | 07 | 05 | 088 02 17 n | 6.48 |
| 05 | 02 | 890918 | 19.45 | 67 | 56 | 07 | 05 | 088 02 17 n | 6.48 | |
| 05 | 03 | 890918 | 19.45 | 71 | 73 | 55 | 12 | 12 | 088 02 18 n | 3.24 |
| 05 | 04 | 890918 | 19.45 | 71 | 73 | 55 | 12 | 12 | 088 02 18 n | 6.48 |
| 05 | 05 | 890918 | 19.45 | 71 | 73 | 55 | 12 | 12 | 088 02 18 n | 6.48 |
| 05 | 06 | 890918 | 19.45 | 73 | 55 | 71 | 05 | 01 | 088 02 18 n | 3.24 |
| 05 | 07 | 890918 | 19.45 | 73 | 55 | 71 | 05 | 01 | 088 02 18 n | 7.78 |
| 05 | 08 | 890918 | 19.45 | 55 | 71 | 73 | 05 | 01 | 088 02 18 n | 5.19 |
| 05 | 09 | 890918 | 19.45 | 55 | 71 | 73 | 04 | 088 | 02 19 n | 3.24 |
| 05 | 10 | 890918 | 19.45 | 56 | 07 | 67 | 04 | 085 | 02 20 n | 9.72 |
| 05 | 11 | 890918 | 19.45 | 07 | 67 | 56 | 04 | 085 | 02 20 n | 12.96 |
| 06 | 01 | 890918 | 19.45 | 07 | 67 | 56 | 04 | 085 | 02 21 n | 6.48 |
| 06 | 02 | 890918 | 19.45 | 67 | 56 | 07 | 05 | 085 | 02 21 n | 1.62 |
| 06 | 03 | 890918 | 19.45 | 67 | 56 | 07 | 05 | 085 | 02 21 n | 3.24 |
| 06 | 04 | 890918 | 19.45 | 71 | 73 | 55 | 05 | 087 | 02 27 n | 1.94 |
| 06 | 05 | 890918 | 19.45 | 71 | 73 | 55 | 05 | 090 | 02 27 n | 5.19 |
| 06 | 06 | 890918 | 19.45 | 73 | 55 | 71 | 05 | 090 | 02 28 n | 1.94 |
| 06 | 07 | 890918 | 19.45 | 67 | 56 | 07 | 04 | 088 | 02 28 n | 2.59 |
| 06 | 08 | 890918 | 19.45 | 67 | 56 | 07 | 04 | 088 | 02 28 n | 7.13 |
| 06 | 09 | 890918 | 19.45 | 56 | 07 | 67 | 05 | 090 | 02 28 n | 7.45 |
| 06 | 10 | 890918 | 19.45 | 56 | 07 | 67 | 05 | 090 | 02 28 n | 0.32 |
| 06 | 11 | 890918 | 19.45 | 56 | 07 | 67 | 05 | 090 | 02 28 n | 7.45 |
| 07 | 01 | 890918 | 19.45 | 56 | 07 | 67 | 05 | 092 | 02 28 n | 3.89 |
| 07 | 02 | 890918 | 19.45 | 56 | 07 | 67 | 05 | 092 | 02 28 n | 4.21 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | position horz. | beauf. vert. | course (deg.) | position latitude | km in leg |
|--------|-----|--------|----------------|------------------|----------------|-------------------|-----------------|------------------|----------------------|--------------|
| 01 | 04 | 890919 | 19.45 | 73 | 55 | 71 | 5 | 092 | 02 28 n | 105 22 w |
| 01 | 05 | 890919 | 19.45 | 67 | 56 | 07 | 5 | 092 | 02 28 n | 105 22 w |
| 01 | 06 | 890919 | 19.45 | 67 | 56 | 07 | 5 | 092 | 02 28 n | 105 22 w |
| 01 | 07 | 890919 | 19.45 | 67 | 56 | 07 | 5 | 092 | 02 27 n | 105 17 w |
| 01 | 08 | 890919 | 19.45 | 67 | 56 | 07 | 5 | 087 | 02 29 n | 105 03 w |
| 01 | 09 | 890919 | 19.45 | 56 | 07 | 67 | 5 | 087 | 02 29 n | 104 55 w |
| 01 | 10 | 890919 | 19.45 | 56 | 07 | 67 | 5 | 087 | 02 32 n | 104 51 w |
| 01 | 11 | 890919 | 19.45 | 07 | 67 | 56 | 5 | 087 | 02 32 n | 104 46 w |
| 01 | 12 | 890919 | 19.45 | 55 | 71 | 73 | 5 | 087 | 02 38 n | 104 40 w |
| 01 | 13 | 890919 | 19.45 | 71 | 73 | 55 | 4 | 090 | 02 38 n | 104 35 w |
| 02 | 01 | 890919 | 19.45 | 73 | 55 | 71 | 4 | 090 | 02 38 n | 104 31 w |
| 02 | 02 | 890919 | 19.45 | 67 | 56 | 07 | 4 | 092 | 02 38 n | 104 31 w |
| 03 | 01 | 890919 | 19.45 | 56 | 07 | 67 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 01 | 890919 | 19.45 | 07 | 67 | 56 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 02 | 890919 | 19.45 | 55 | 71 | 73 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 03 | 890919 | 19.45 | 55 | 71 | 73 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 04 | 890919 | 19.45 | 55 | 71 | 73 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 05 | 890919 | 19.45 | 71 | 73 | 55 | 4 | 092 | 02 38 n | 104 31 w |
| 04 | 06 | 890919 | 19.45 | 71 | 73 | 55 | 01 | 094 | 02 38 n | 104 21 w |
| 04 | 07 | 890919 | 19.45 | 71 | 73 | 55 | 06 | 094 | 02 38 n | 104 21 w |
| 04 | 08 | 890919 | 19.45 | 71 | 73 | 55 | 06 | 094 | 02 38 n | 104 21 w |
| 04 | 09 | 890919 | 19.45 | 73 | 55 | 71 | 06 | 094 | 02 38 n | 104 21 w |
| 04 | 10 | 890919 | 19.45 | 73 | 55 | 71 | 06 | 094 | 02 38 n | 104 21 w |
| 04 | 11 | 890919 | 19.45 | 67 | 56 | 07 | 07 | 094 | 02 38 n | 104 07 w |
| 04 | 12 | 890919 | 19.45 | 56 | 07 | 67 | 07 | 094 | 02 38 n | 104 07 w |
| 04 | 13 | 890919 | 19.45 | 56 | 07 | 67 | 06 | 094 | 02 38 n | 104 07 w |
| 04 | 14 | 890919 | 19.45 | 56 | 07 | 67 | 06 | 094 | 02 38 n | 104 07 w |
| 04 | 15 | 890919 | 19.45 | 07 | 67 | 56 | 02 | 094 | 02 37 n | 103 58 w |
| 04 | 16 | 890919 | 19.45 | 57 | 71 | 73 | 06 | 094 | 02 37 n | 103 55 w |
| 04 | 17 | 890919 | 19.45 | 71 | 73 | 55 | 06 | 094 | 02 37 n | 103 53 w |
| 04 | 18 | 890919 | 19.45 | 71 | 73 | 55 | 05 | 094 | 02 37 n | 103 53 w |
| 04 | 19 | 890919 | 19.45 | 73 | 55 | 71 | 04 | 094 | 02 37 n | 103 48 w |
| 04 | 20 | 890919 | 19.45 | 73 | 55 | 71 | 04 | 094 | 02 37 n | 103 48 w |
| 01 | 01 | 890920 | 19.45 | 07 | 67 | 56 | 07 | 090 | 02 36 n | 102 33 w |
| 02 | 01 | 890920 | 19.45 | 67 | 56 | 07 | 07 | 090 | 02 37 n | 102 30 w |
| 02 | 02 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 080 | 02 38 n | 102 29 w |
| 02 | 03 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 090 | 02 38 n | 102 29 w |
| 02 | 04 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 090 | 02 38 n | 102 29 w |
| 03 | 01 | 890920 | 19.45 | 55 | 71 | 73 | 03 | 090 | 02 36 n | 102 27 w |
| 04 | 01 | 890920 | 19.45 | 55 | 71 | 73 | 03 | 090 | 02 36 n | 102 25 w |
| 05 | 01 | 890920 | 19.45 | 71 | 73 | 55 | 01 | 090 | 02 38 n | 102 18 w |
| 05 | 02 | 890920 | 19.45 | 71 | 73 | 55 | 04 | 090 | 02 38 n | 102 17 w |
| 05 | 03 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 090 | 02 38 n | 102 17 w |
| 05 | 04 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 090 | 02 38 n | 102 17 w |
| 05 | 05 | 890920 | 19.45 | 67 | 56 | 07 | 04 | 090 | 02 38 n | 102 17 w |
| 05 | 06 | 890920 | 19.45 | 73 | 55 | 71 | 04 | 095 | 02 39 n | 101 56 w |
| 05 | 07 | 890920 | 19.45 | 55 | 71 | 73 | 04 | 095 | 02 39 n | 101 56 w |
| 05 | 08 | 890920 | 19.45 | 55 | 71 | 73 | 05 | 12 | 4 | 095 |
| 05 | 09 | 890920 | 19.45 | 71 | 73 | 55 | 01 | 095 | 02 39 n | 101 47 w |
| 05 | 10 | 890920 | 19.45 | 71 | 73 | 55 | 04 | 095 | 02 39 n | 101 45 w |
| 05 | 11 | 890920 | 19.45 | 07 | 67 | 56 | 04 | 095 | 02 37 n | 101 41 w |
| 05 | 12 | 890920 | 19.45 | 07 | 67 | 56 | 05 | 105 | 02 37 n | 101 37 w |
| 05 | 13 | 890920 | 19.45 | 07 | 67 | 56 | 05 | 105 | 02 37 n | 101 37 w |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right rec. | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|------------------|------------------------|--------------------------------|---------------|------------------|-----------------------------------|--------------|
| 05 | 14 | 890920 | 19.45 | 07 | 67 | 56 | 5 | 090 | 02 36 n 101 35 w | 0.65 |
| 05 | 15 | 890920 | 19.45 | 67 | 56 | 07 | 5 | 090 | 02 36 n 101 25 w | 9.72 |
| 05 | 16 | 890920 | 19.45 | 67 | 56 | 07 | 5 | 090 | 02 36 n 101 29 w | 3.24 |
| 05 | 17 | 890920 | 19.45 | 56 | 07 | 67 | 5 | 090 | 02 37 n 101 25 w | 5.51 |
| 05 | 18 | 890920 | 19.45 | 56 | 07 | 67 | 5 | 090 | 02 36 n 101 29 w | 3.57 |
| 06 | 01 | 890920 | 19.45 | 73 | 55 | 71 | 5 | 105 | 02 37 n 101 25 w | 3.24 |
| 06 | 02 | 890920 | 19.45 | 73 | 55 | 71 | 4 | 100 | 02 35 n 101 20 w | 0.97 |
| 07 | 01 | 890920 | 19.45 | 55 | 71 | 73 | 4 | 100 | 02 34 n 101 15 w | 9.72 |
| 07 | 02 | 890920 | 19.45 | 71 | 73 | 55 | 4 | 110 | 02 34 n 101 14 w | 1.94 |
| 07 | 03 | 890920 | 19.45 | 71 | 73 | 55 | 4 | 100 | 02 35 n 101 12 w | 7.78 |
| 08 | 01 | 890920 | 19.45 | 07 | 67 | 56 | 4 | 100 | 02 34 n 101 08 w | 0.32 |
| 08 | 02 | 890920 | 19.45 | 07 | 67 | 56 | 4 | 100 | 02 34 n 101 00 w | 0.32 |
| 01 | 01 | 890921 | 19.45 | 71 | 73 | 55 | 4 | 100 | 02 22 n 100 00 w | 4.86 |
| 01 | 02 | 890921 | 19.45 | 71 | 73 | 55 | 5 | 100 | 02 22 n 100 00 w | 4.21 |
| 01 | 03 | 890921 | 19.45 | 73 | 55 | 71 | 5 | 100 | 02 22 n 100 00 w | 9.07 |
| 01 | 04 | 890921 | 19.45 | 55 | 71 | 73 | 12 | 02 | 02 20 n 099 47 w | 2.92 |
| 01 | 05 | 890921 | 19.45 | 55 | 71 | 73 | 5 | 100 | 02 26 n 099 44 w | 1.30 |
| 02 | 01 | 890921 | 19.45 | 56 | 07 | 67 | 12 | 02 | 02 25 n 099 43 w | 3.24 |
| 02 | 02 | 890921 | 19.45 | 56 | 07 | 67 | 5 | 110 | 02 25 n 099 41 w | 1.62 |
| 02 | 03 | 890921 | 19.45 | 56 | 07 | 67 | 5 | 110 | 02 24 n 099 39 w | 3.24 |
| 02 | 04 | 890921 | 19.45 | 07 | 67 | 56 | 5 | 100 | 02 24 n 099 39 w | 5.19 |
| 02 | 05 | 890921 | 19.45 | 07 | 67 | 56 | 5 | 100 | 02 24 n 099 39 w | 0.32 |
| 01 | 01 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 112 | 01 27 n 097 01 w | 9.07 |
| 01 | 02 | 890922 | 19.45 | 56 | 07 | 67 | 5 | 112 | 01 26 n 096 58 w | 3.24 |
| 01 | 03 | 890922 | 19.45 | 56 | 07 | 67 | 5 | 112 | 01 24 n 096 53 w | 6.16 |
| 01 | 04 | 890922 | 19.45 | 07 | 67 | 56 | 5 | 112 | 01 22 n 096 49 w | 9.07 |
| 01 | 05 | 890922 | 19.45 | 55 | 71 | 73 | 11 | 02 | 01 22 n 096 49 w | 8.43 |
| 01 | 06 | 890922 | 19.45 | 55 | 71 | 73 | 11 | 02 | 01 21 n 096 44 w | 5.51 |
| 01 | 07 | 890922 | 19.45 | 71 | 73 | 55 | 11 | 02 | 01 18 n 096 41 w | 8.43 |
| 01 | 08 | 890922 | 19.45 | 71 | 73 | 55 | 11 | 01 | 01 17 n 096 40 w | 2.92 |
| 02 | 01 | 890922 | 19.45 | 73 | 55 | 71 | 11 | 01 | 01 16 n 096 33 w | 6.16 |
| 03 | 01 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 116 | 01 16 n 096 27 w | 8.75 |
| 03 | 02 | 890922 | 19.45 | 56 | 07 | 67 | 4 | 116 | 01 16 n 096 23 w | 9.07 |
| 03 | 03 | 890922 | 19.45 | 07 | 67 | 56 | 4 | 116 | 01 14 n 096 23 w | 8.75 |
| 03 | 04 | 890922 | 19.45 | 55 | 71 | 73 | 4 | 116 | 01 14 n 096 23 w | 12.96 |
| 03 | 05 | 890922 | 19.45 | 71 | 73 | 55 | 5 | 116 | 01 14 n 096 23 w | 4.86 |
| 03 | 06 | 890922 | 19.45 | 71 | 73 | 55 | 05 | 12 | 01 16 n 096 07 w | 8.10 |
| 03 | 07 | 890922 | 19.45 | 73 | 55 | 71 | 05 | 01 | 01 09 n 096 12 w | 1.62 |
| 03 | 08 | 890922 | 19.45 | 73 | 55 | 71 | 05 | 01 | 01 09 n 096 11 w | 1.30 |
| 03 | 09 | 890922 | 19.45 | 73 | 55 | 71 | 05 | 01 | 01 09 n 096 11 w | 3.57 |
| 03 | 10 | 890922 | 19.45 | 73 | 55 | 71 | 05 | 01 | 01 09 n 096 07 w | 6.48 |
| 04 | 01 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 116 | 00 58 n 095 52 w | 12.64 |
| 04 | 02 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 116 | 00 57 n 095 48 w | 6.16 |
| 04 | 03 | 890922 | 19.45 | 56 | 07 | 67 | 5 | 116 | 00 55 n 095 44 w | 9.72 |
| 04 | 04 | 890922 | 19.45 | 07 | 67 | 56 | 5 | 116 | 00 52 n 095 40 w | 9.72 |
| 05 | 01 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 116 | 00 51 n 095 39 w | 2.27 |
| 05 | 02 | 890922 | 19.45 | 67 | 56 | 07 | 67 | 116 | 00 51 n 095 39 w | 0.32 |
| 01 | 01 | 890923 | 19.45 | 07 | 55 | 71 | 4 | 113 | 00 13 n 094 25 w | 0.97 |
| 02 | 01 | 890923 | 19.45 | 07 | 55 | 71 | 4 | 113 | 00 11 n 094 22 w | 2.59 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | sun position horz. vert. | course (deg.) | beauf. no. | position latitude longitude | km in leg | |
|--------|-----|--------|----------------|----------------|-------|--------------------------------|------------------|---------------|-----------------------------------|--------------|-------|
| | | | | left | right | | | | | | |
| 03 | 01 | 890923 | 19.45 | 55 | 71 | 07 | 4 | 115 | 00 09 n | 1.30 | |
| 04 | 01 | 890923 | 19.45 | 73 | 55 | 71 | 5 | 115 | 00 01 s | 6.48 | |
| 04 | 02 | 890923 | 19.45 | 55 | 71 | 73 | 5 | 115 | 00 01 s | 6.48 | |
| 04 | 03 | 890923 | 19.45 | 71 | 73 | 55 | 5 | 115 | 00 04 s | 5.19 | |
| 05 | 01 | 890923 | 19.45 | 07 | 67 | 56 | 5 | 115 | 00 06 s | 9.72 | |
| 05 | 02 | 890923 | 19.45 | 67 | 56 | 07 | 5 | 115 | 00 06 s | 5.51 | |
| 06 | 01 | 890923 | 19.45 | 56 | 07 | 67 | 5 | 116 | 00 06 s | 3.89 | |
| 06 | 02 | 890923 | 19.45 | 56 | 07 | 67 | 5 | 116 | 00 07 s | 0.32 | |
| 01 | 01 | 890924 | 19.45 | 56 | 07 | 67 | 5 | 116 | 01 04 s | 5.19 | |
| 01 | 02 | 890924 | 19.45 | 56 | 07 | 67 | 5 | 120 | 01 04 s | 6.48 | |
| 01 | 03 | 890924 | 19.45 | 07 | 67 | 56 | 5 | 120 | 01 01 s | 11.34 | |
| 01 | 04 | 890924 | 19.45 | 67 | 56 | 07 | 5 | 120 | 01 12 s | 11.34 | |
| 01 | 05 | 890924 | 19.45 | 71 | 73 | 55 | 11 | 02 | 01 12 s | 3.57 | |
| 01 | 06 | 890924 | 19.45 | 71 | 73 | 55 | 4 | 120 | 01 14 s | 1.94 | |
| 01 | 07 | 890924 | 19.45 | 71 | 73 | 55 | 4 | 120 | 01 14 s | 0.32 | |
| 01 | 08 | 890924 | 19.45 | 71 | 73 | 55 | 11 | 02 | 01 42 s | 2.92 | |
| 01 | 01 | 890926 | 19.45 | 07 | 67 | 56 | 11 | 02 | 01 43 s | 2.92 | |
| 01 | 02 | 890926 | 19.45 | 07 | 67 | 56 | 10 | 02 | 088 42 w | 0.65 | |
| 01 | 03 | 890926 | 19.45 | 07 | 67 | 56 | 5 | 146 | 01 46 s | 2.59 | |
| 01 | 04 | 890926 | 19.45 | 67 | 56 | 07 | 5 | 146 | 088 41 w | 3.89 | |
| 01 | 05 | 890926 | 19.45 | 67 | 56 | 07 | 10 | 02 | 088 23 w | 3.57 | |
| 01 | 06 | 890926 | 19.45 | 56 | 07 | 67 | 10 | 02 | 088 23 w | 2.27 | |
| 01 | 07 | 890926 | 19.45 | 56 | 07 | 67 | 5 | 146 | 01 49 s | 0.65 | |
| 01 | 08 | 890926 | 19.45 | 56 | 07 | 67 | 5 | 148 | 02 13 s | 3.89 | |
| 02 | 01 | 890926 | 19.45 | 07 | 67 | 56 | 5 | 148 | 02 15 s | 0.32 | |
| 02 | 02 | 890926 | 19.45 | 07 | 67 | 56 | 5 | 060 | 05 20 s | 3.89 | |
| 01 | 01 | 890928 | 19.45 | 55 | 71 | 73 | 5 | 060 | 05 17 s | 0.97 | |
| 01 | 02 | 890928 | 19.45 | 55 | 71 | 73 | 5 | 060 | 05 16 s | 2.59 | |
| 02 | 02 | 890928 | 19.45 | 71 | 73 | 55 | 5 | 060 | 05 15 s | 4.86 | |
| 03 | 01 | 890928 | 19.45 | 71 | 73 | 55 | 5 | 060 | 05 19 w | 5.19 | |
| 03 | 02 | 890928 | 19.45 | 73 | 55 | 71 | 5 | 060 | 05 12 s | 11.99 | |
| 04 | 01 | 890928 | 19.45 | 56 | 07 | 67 | 5 | 060 | 05 00 s | 12.96 | |
| 04 | 02 | 890928 | 19.45 | 07 | 67 | 56 | 5 | 060 | 05 00 s | 9.07 | |
| 04 | 03 | 890928 | 19.45 | 67 | 56 | 07 | 5 | 060 | 04 54 s | 5.51 | |
| 05 | 01 | 890928 | 19.45 | 55 | 71 | 73 | 5 | 060 | 04 52 s | 3.89 | |
| 06 | 01 | 890928 | 19.45 | 71 | 73 | 55 | 7 | 060 | 04 50 s | 10.05 | |
| 07 | 01 | 890928 | 19.45 | 73 | 55 | 71 | 4 | 054 | 04 47 s | 2.59 | |
| 08 | 01 | 890928 | 19.45 | 56 | 07 | 67 | 4 | 054 | 084 34 w | 5.19 | |
| 08 | 02 | 890928 | 19.45 | 71 | 73 | 55 | 4 | 054 | 04 45 s | 7.13 | |
| 08 | 03 | 890928 | 19.45 | 07 | 67 | 56 | 4 | 054 | 084 31 w | 3.24 | |
| 08 | 04 | 890928 | 19.45 | 07 | 67 | 56 | 4 | 054 | 084 26 w | 7.13 | |
| 08 | 05 | 890928 | 19.45 | 67 | 56 | 07 | 4 | 054 | 084 24 w | 12.96 | |
| 09 | 01 | 890928 | 19.45 | 67 | 56 | 07 | 4 | 054 | 04 14 s | 4.86 | |
| 09 | 02 | 890928 | 19.45 | 55 | 71 | 73 | 4 | 054 | 083 49 w | 0.32 | |
| 09 | 03 | 890928 | 19.45 | 71 | 73 | 55 | 4 | 054 | 083 38 w | 8.10 | |
| 10 | 01 | 890928 | 19.45 | 55 | 71 | 73 | 4 | 054 | 082 47 w | 3.57 | |
| 10 | 02 | 890928 | 19.45 | 55 | 71 | 56 | 4 | 054 | 082 39 w | 4.86 | |
| 01 | 01 | 890929 | 19.45 | 67 | 56 | 07 | 67 | 03 19 s | 082 38 w | 1.94 | |
| 02 | 01 | 890929 | 19.45 | 56 | 07 | 67 | 67 | 4 | 054 | 03 16 s | 12.96 |
| 03 | 01 | 890929 | 19.45 | 56 | 07 | 67 | 67 | 4 | 054 | 03 12 s | 8.10 |
| 03 | 02 | 890929 | 19.45 | 73 | 55 | 71 | 3 | 054 | 082 30 w | 12.96 | |
| 03 | 03 | 890929 | 19.45 | 55 | 71 | 73 | 3 | 054 | 082 30 w | 8.10 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|------|----------------|-------------------|-----------------------|---------------|------------------|----------------------|-----------------------|--------------|
| | | | | left | right | rec. | | | | |
| 7 | 03 | 05 | 890929 | 19.45 | 55 | 71 | 73 | 3 | 054 | 3.24 |
| | 04 | 01 | 890929 | 19.45 | 67 | 56 | 07 | 4 | 049 | 7.13 |
| | 04 | 02 | 890929 | 19.45 | 67 | 56 | 07 | 4 | 049 | 2.59 |
| | 04 | 03 | 890929 | 19.45 | 56 | 07 | 67 | 4 | 049 | 6.16 |
| | 05 | 01 | 890929 | 19.45 | 56 | 07 | 67 | 3 | 049 | 2.27 |
| | 05 | 02 | 890929 | 19.45 | 07 | 67 | 56 | 3 | 049 | 9.72 |
| | 05 | 03 | 890929 | 19.45 | 73 | 55 | 71 | 3 | 049 | 12.64 |
| | 06 | 01 | 890929 | 19.45 | 55 | 71 | 73 | 4 | 049 | 10.05 |
| | 06 | 02 | 890929 | 19.45 | 71 | 73 | 55 | 4 | 049 | 2.59 |
| | 06 | 03 | 890929 | 19.45 | 71 | 73 | 55 | 07 | 049 | 1.30 |
| | 06 | 04 | 890929 | 19.45 | 71 | 73 | 55 | 07 | 049 | 6.48 |
| | 06 | 05 | 890929 | 19.45 | 67 | 56 | 07 | 01 | 049 | 12.96 |
| | 06 | 06 | 890929 | 19.45 | 56 | 07 | 67 | 07 | 049 | 2.27 |
| | 07 | 01 | 890929 | 19.45 | 56 | 07 | 67 | 4 | 058 | 0.32 |
| | 08 | 01 | 890929 | 19.45 | 07 | 67 | 56 | 3 | 053 | 0.97 |
| | 08 | 02 | 890929 | 19.45 | 07 | 67 | 56 | 3 | 040 | 2.27 |
| | 09 | 01 | 890929 | 19.45 | 73 | 55 | 71 | 3 | 053 | 2.59 |
| | 09 | 02 | 890929 | 19.45 | 73 | 55 | 71 | 3 | 000 | 4.54 |
| | 09 | 03 | 890929 | 19.45 | 55 | 71 | 73 | 3 | 000 | 5.83 |
| | 09 | 04 | 890929 | 19.45 | 71 | 73 | 55 | 07 | 000 | 7.13 |
| | 09 | 05 | 890929 | 19.45 | 67 | 56 | 07 | 00 | 02 | 7.45 |
| | 09 | 06 | 890929 | 19.45 | 56 | 07 | 67 | 00 | 02 | 5.83 |
| | 09 | 07 | 890929 | 19.45 | 56 | 07 | 67 | 00 | 02 | 4.54 |
| | 01 | 01 | 891006 | 19.45 | 74 | 01 | 51 | 3 | 243 | 0.32 |
| | 02 | 01 | 891006 | 19.45 | 51 | 74 | 01 | 3 | 243 | 0.32 |
| | 02 | 02 | 891006 | 19.45 | 22 | 45 | 05 | 3 | 243 | 0.32 |
| | 02 | 03 | 891006 | 19.45 | 45 | 05 | 22 | 3 | 243 | 0.32 |
| | 02 | 04 | 891006 | 19.45 | 05 | 22 | 45 | 05 | 02 | 0.32 |
| | 02 | 05 | 891006 | 19.45 | 22 | 45 | 05 | 22 | 02 | 0.32 |
| | 02 | 06 | 891006 | 19.45 | 45 | 05 | 22 | 3 | 243 | 0.32 |
| | 03 | 01 | 891006 | 19.45 | 45 | 05 | 22 | 4 | 243 | 0.32 |
| | 03 | 02 | 891006 | 19.45 | 51 | 01 | 74 | 4 | 243 | 0.32 |
| | 03 | 03 | 891006 | 19.45 | 74 | 51 | 01 | 4 | 243 | 0.32 |
| | 03 | 04 | 891006 | 19.45 | 01 | 74 | 51 | 4 | 243 | 0.32 |
| | 03 | 05 | 891006 | 19.45 | 05 | 22 | 45 | 05 | 3 | 243 |
| | 04 | 01 | 891006 | 19.45 | 22 | 45 | 05 | 22 | 03 | 0.30 |
| | 04 | 02 | 891006 | 19.45 | 45 | 05 | 22 | 45 | 3 | 272 |
| | 05 | 01 | 891006 | 19.45 | 05 | 22 | 45 | 05 | 3 | 272 |
| | 05 | 02 | 891006 | 19.45 | 05 | 22 | 45 | 05 | 3 | 272 |
| | 05 | 03 | 891006 | 19.45 | 74 | 01 | 51 | 3 | 272 | 0.48 |
| | 06 | 01 | 891006 | 19.45 | 51 | 74 | 01 | 3 | 272 | 0.48 |
| | 06 | 02 | 891006 | 19.45 | 01 | 51 | 74 | 3 | 272 | 0.48 |
| | 06 | 03 | 891006 | 19.45 | 22 | 45 | 05 | 22 | 03 | 0.48 |
| | 06 | 04 | 891006 | 19.45 | 45 | 05 | 22 | 45 | 3 | 272 |
| | 06 | 05 | 891006 | 19.45 | 05 | 22 | 45 | 05 | 3 | 272 |
| | 06 | 06 | 891006 | 19.45 | 51 | 74 | 01 | 3 | 272 | 0.48 |
| | 07 | 01 | 891006 | 19.45 | 01 | 51 | 74 | 01 | 3 | 272 |
| | 01 | 01 | 891007 | 18.52 | 22 | 45 | 05 | 5 | 02 | 4.32 |
| | 01 | 02 | 891007 | 18.52 | 22 | 45 | 05 | 5 | 02 | 1.85 |
| | 01 | 03 | 891007 | 18.52 | 45 | 05 | 22 | 45 | 3 | 271 |
| | 02 | 01 | 891007 | 18.52 | 05 | 22 | 45 | 05 | 2 | 0.94 |
| | 02 | 02 | 891007 | 18.52 | 05 | 22 | 45 | 05 | 2 | 0.62 |
| | 03 | 01 | 891007 | 18.52 | 01 | 51 | 74 | 01 | 2 | 0.64 |
| | 03 | 02 | 891007 | 18.52 | 01 | 51 | 74 | 01 | 03 | 0.93 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|--------------------|-----------------------------|---------------|------------------|--------------------------------|--------------|
| | | | | left right rec. | | | | | |
| 03 | 03 | 891007 | 18.52 | 74 01 | 51 | 3 | 271 | 3.70 | |
| 03 | 04 | 891007 | 18.52 | 74 01 | 51 | 3 | 271 | 8.33 | |
| 03 | 05 | 891007 | 18.52 | 51 01 | 01 | 3 | 271 | 7.41 | |
| 03 | 06 | 891007 | 18.52 | 51 01 | 06 | 01 | 3 | 2.78 | |
| 03 | 07 | 891007 | 18.52 | 51 01 | 74 | 01 | 3 | 2.16 | |
| 03 | 08 | 891007 | 18.52 | 05 22 | 45 | 02 | 255 s | 6.17 | |
| 03 | 09 | 891007 | 18.52 | 22 45 | 05 | 01 | 3 | 6.17 | |
| 03 | 10 | 891007 | 18.52 | 45 05 | 22 | 01 | 3 | 6.17 | |
| 03 | 11 | 891007 | 18.52 | 05 22 | 45 | 01 | 3 | 5.25 | |
| 03 | 12 | 891007 | 18.52 | 05 22 | 45 | 01 | 3 | 0.93 | |
| 03 | 13 | 891007 | 18.52 | 22 45 | 05 | 01 | 3 | 6.17 | |
| 03 | 14 | 891007 | 18.52 | 45 05 | 22 | 06 | 01 | 6.17 | |
| 03 | 15 | 891007 | 18.52 | 05 22 | 45 | 05 | 01 | 11.42 | |
| 03 | 16 | 891007 | 18.52 | 74 01 | 51 | 01 | 4 | 0.93 | |
| 03 | 17 | 891007 | 18.52 | 51 74 | 01 | 12 | 12 | 5.25 | |
| 04 | 01 | 891007 | 18.52 | 51 74 | 01 | 12 | 12 | 4 | |
| 04 | 02 | 891007 | 18.52 | 01 51 | 74 | 01 | 4 | 271 | 4.63 |
| 04 | 03 | 891007 | 18.52 | 01 51 | 74 | 01 | 4 | 11.11 | |
| 04 | 04 | 891007 | 18.52 | 05 22 | 45 | 01 | 4 | 1.23 | |
| 04 | 05 | 01 | 891007 | 18.52 | 22 45 | 05 | 12 | 5.25 | |
| 05 | 02 | 891007 | 18.52 | 45 05 | 22 | 01 | 4 | 6.17 | |
| 06 | 01 | 891007 | 18.52 | 05 22 | 45 | 02 | 4 | 5.86 | |
| 07 | 01 | 891007 | 18.52 | 22 45 | 05 | 01 | 4 | 11.42 | |
| 07 | 02 | 891007 | 18.52 | 51 74 | 01 | 12 | 01 | 271 | 7.72 |
| 07 | 03 | 891007 | 18.52 | 01 51 | 74 | 01 | 4 | 7.72 | |
| 07 | 04 | 891007 | 18.52 | 74 01 | 51 | 01 | 4 | 4.63 | |
| 07 | 05 | 01 | 891007 | 18.52 | 45 05 | 22 | 01 | 271 | 5.86 |
| 07 | 06 | 891007 | 18.52 | 05 22 | 45 | 02 | 4 | 5.86 | |
| 07 | 07 | 891007 | 18.52 | 22 45 | 05 | 01 | 4 | 1.85 | |
| 07 | 08 | 01 | 891008 | 18.52 | 74 01 | 51 | 01 | 271 | 8.03 |
| 07 | 09 | 02 | 891008 | 18.52 | 01 74 | 51 | 01 | 276 | 4.32 |
| 07 | 10 | 03 | 891008 | 18.52 | 01 74 | 51 | 01 | 4 | 5.25 |
| 07 | 11 | 04 | 891008 | 18.52 | 01 74 | 51 | 01 | 276 | 7.10 |
| 07 | 12 | 05 | 891008 | 18.52 | 22 45 | 05 | 02 | 3.09 | |
| 07 | 13 | 06 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 14 | 07 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 15 | 08 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 16 | 09 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 17 | 10 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 18 | 11 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 19 | 12 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 20 | 13 | 891008 | 18.52 | 05 22 | 45 | 02 | 3.09 | |
| 07 | 21 | 14 | 891008 | 18.52 | 01 74 | 51 | 01 | 5.25 | |
| 07 | 22 | 01 | 891008 | 18.52 | 01 74 | 51 | 01 | 3.09 | |
| 07 | 23 | 02 | 891008 | 18.52 | 01 74 | 51 | 01 | 5.25 | |
| 07 | 24 | 03 | 891008 | 18.52 | 51 01 | 74 | 01 | 2.47 | |
| 07 | 25 | 04 | 891008 | 18.52 | 01 74 | 51 | 01 | 4.94 | |
| 07 | 26 | 05 | 891008 | 18.52 | 22 45 | 05 | 02 | 2.47 | |
| 07 | 27 | 06 | 891008 | 18.52 | 05 22 | 45 | 02 | 9.26 | |
| 07 | 28 | 07 | 891008 | 18.52 | 05 22 | 45 | 02 | 6.17 | |
| 07 | 29 | 08 | 891008 | 18.52 | 05 22 | 45 | 02 | 5.93 | |
| 07 | 30 | 09 | 891008 | 18.52 | 05 22 | 45 | 02 | 6.48 | |
| 07 | 31 | 10 | 891008 | 18.52 | 05 22 | 45 | 02 | 2.78 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | sun position horz. | beauf. vert. | course (deg.) | position latitude | km in leg | |
|--------|-----|--------|----------------|------------------|----------------|-----------------------|-----------------|------------------|------------------------|------------------------|------------------------|
| 04 | 01 | 891008 | 18.52 | 45 | 05 | 22 | 12 | 3 | 276 | 02 54 S 090 14 W 6.17 | |
| 04 | 02 | 891008 | 18.52 | 05 | 22 | 45 | 3 | 276 | 02 53 S 090 21 W 5.86 | | |
| 04 | 03 | 891008 | 18.52 | 51 | 01 | 74 | 3 | 276 | 02 53 S 090 21 W 12.35 | | |
| 04 | 04 | 891008 | 18.52 | 51 | 01 | 74 | 3 | 276 | 02 53 S 090 21 W 12.35 | | |
| 04 | 05 | 891008 | 18.52 | 01 | 74 | 51 | 3 | 276 | 02 51 S 090 44 W 4.94 | | |
| 04 | 06 | 891008 | 18.52 | 22 | 45 | 51 | 3 | 276 | 02 51 S 090 44 W 6.17 | | |
| 04 | 07 | 891008 | 18.52 | 45 | 05 | 22 | 3 | 276 | 02 50 S 091 01 W 6.17 | | |
| 04 | 08 | 891008 | 18.52 | 05 | 22 | 45 | 3 | 276 | 02 50 S 091 08 W 5.25 | | |
| 05 | 01 | 891008 | 18.52 | 01 | 74 | 51 | 3 | 276 | 02 51 S 091 12 W 4.01 | | |
| 05 | 02 | 891009 | 19.45 | 45 | 22 | 05 | 3 | 273 | 02 46 S 092 47 W 7.78 | | |
| 01 | 01 | 891009 | 19.45 | 22 | 05 | 06 | 03 | 273 | 02 46 S 092 47 W 5.19 | | |
| 01 | 02 | 891009 | 19.45 | 45 | 22 | 06 | 03 | 273 | 02 48 S 092 59 W 1.62 | | |
| 01 | 03 | 891009 | 19.45 | 05 | 45 | 22 | 06 | 273 | 02 48 S 092 59 W 10.05 | | |
| 02 | 01 | 891009 | 19.45 | 01 | 74 | 51 | 01 | 273 | 02 48 S 092 59 W 12.64 | | |
| 02 | 02 | 891009 | 19.45 | 01 | 74 | 51 | 06 | 01 | 273 | 02 47 S 093 19 W 13.61 | |
| 02 | 03 | 891009 | 19.45 | 45 | 22 | 05 | 06 | 01 | 273 | 02 50 S 093 23 W 2.92 | |
| 03 | 01 | 891009 | 19.45 | 22 | 05 | 45 | 06 | 01 | 273 | 02 50 S 093 23 W 0.97 | |
| 04 | 01 | 891009 | 19.45 | 22 | 05 | 45 | 06 | 01 | 273 | 02 50 S 093 25 W 5.51 | |
| 04 | 02 | 891009 | 19.45 | 22 | 05 | 45 | 06 | 01 | 276 | 02 49 S 093 27 W 0.65 | |
| 04 | 03 | 891009 | 19.45 | 05 | 45 | 22 | 06 | 01 | 276 | 02 49 S 093 27 W 6.16 | |
| 05 | 01 | 891009 | 19.45 | 45 | 22 | 05 | 06 | 01 | 276 | 02 49 S 093 32 W 9.07 | |
| 05 | 02 | 891009 | 19.45 | 51 | 01 | 74 | 06 | 01 | 276 | 02 49 S 093 37 W 12.96 | |
| 05 | 03 | 891009 | 19.45 | 74 | 51 | 01 | 12 | 3 | 276 | 02 46 S 094 13 W 12.96 | |
| 05 | 04 | 891009 | 19.45 | 01 | 74 | 51 | 02 | 12 | 4 | 276 | 02 46 S 094 13 W 11.34 |
| 06 | 01 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 48 S 094 02 W 3.89 |
| 06 | 02 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 48 S 094 02 W 1.62 |
| 06 | 03 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 48 S 094 06 W 1.30 |
| 06 | 04 | 891009 | 19.45 | 05 | 45 | 22 | 05 | 01 | 3 | 276 | 02 48 S 094 06 W 1.94 |
| 07 | 01 | 891009 | 19.45 | 45 | 22 | 05 | 12 | 01 | 3 | 276 | 02 46 S 094 13 W 7.13 |
| 07 | 02 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 46 S 094 13 W 2.59 |
| 07 | 03 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 48 S 094 39 W 1.62 |
| 07 | 04 | 891009 | 19.45 | 22 | 05 | 45 | 12 | 01 | 3 | 276 | 02 45 S 094 22 W 3.57 |
| 07 | 05 | 891009 | 19.45 | 74 | 51 | 01 | 12 | 02 | 4 | 276 | 02 45 S 094 22 W 1.94 |
| 07 | 06 | 891009 | 19.45 | 74 | 51 | 01 | 12 | 02 | 4 | 276 | 02 45 S 094 22 W 2.27 |
| 07 | 07 | 891009 | 19.45 | 22 | 05 | 45 | 11 | 02 | 4 | 296 | 02 44 S 094 51 W 3.89 |
| 07 | 08 | 891009 | 19.45 | 01 | 74 | 51 | 11 | 02 | 5 | 296 | 02 44 S 094 51 W 6.48 |
| 07 | 09 | 891009 | 19.45 | 51 | 01 | 74 | 11 | 02 | 5 | 296 | 02 43 S 096 31 W 1.30 |
| 07 | 10 | 891009 | 19.45 | 05 | 45 | 22 | 05 | 11 | 02 | 45 S 096 38 W 4.86 | |
| 07 | 11 | 891009 | 19.45 | 45 | 22 | 05 | 11 | 02 | 5 | 296 | 02 45 S 096 45 W 2.27 |
| 07 | 12 | 891009 | 19.45 | 74 | 51 | 01 | 12 | 02 | 4 | 296 | 02 37 S 096 31 W 7.78 |
| 07 | 13 | 891009 | 19.45 | 22 | 05 | 45 | 11 | 03 | 4 | 296 | 02 37 S 096 31 W 3.89 |
| 07 | 14 | 891009 | 19.45 | 05 | 45 | 22 | 11 | 03 | 4 | 296 | 02 44 S 094 56 W 1.30 |
| 07 | 15 | 891009 | 19.45 | 45 | 22 | 05 | 11 | 03 | 4 | 296 | 02 43 S 096 38 W 3.24 |
| 08 | 01 | 891009 | 19.45 | 45 | 22 | 05 | 11 | 03 | 4 | 296 | 02 44 S 096 45 W 2.27 |
| 01 | 01 | 891010 | 19.45 | 74 | 01 | 51 | 2 | 2 | 2 | 278 | 02 39 S 096 49 W 0.66 |
| 02 | 01 | 891010 | 19.45 | 51 | 01 | 74 | 01 | 2 | 2 | 278 | 02 39 S 096 49 W 9.07 |
| 03 | 01 | 891010 | 19.45 | 22 | 45 | 05 | 22 | 01 | 2 | 278 | 02 38 S 096 55 W 2.92 |
| 03 | 02 | 891010 | 19.45 | 45 | 05 | 22 | 45 | 01 | 2 | 278 | 02 38 S 096 55 W 2.92 |
| 04 | 01 | 891010 | 19.45 | 05 | 22 | 45 | 01 | 2 | 2 | 278 | 02 38 S 096 55 W 2.92 |
| 04 | 02 | 891010 | 19.45 | 51 | 01 | 74 | 01 | 2 | 2 | 278 | 02 38 S 096 55 W 2.92 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | sun position horiz. rec. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|------------------|----------------|-----------------------------|---------------|------------------|--------------------------------|--------------|
| 05 | 01 | 891010 | 19.45 | 51 | 74 | 01 | 2 | 274 | 02 36 S | 096 57 W |
| 06 | 01 | 891010 | 19.45 | 01 | 51 | 74 | 2 | 272 | 02 33 S | 097 01 W |
| 06 | 02 | 891010 | 19.45 | 74 | 01 | 51 | 2 | 272 | 02 33 S | 097 06 W |
| 06 | 03 | 891010 | 19.45 | 74 | 01 | 51 | 3 | 272 | 02 33 S | 097 06 W |
| 06 | 04 | 891010 | 19.45 | 22 | 45 | 05 | 22 | 12 | 01 | 3 272 |
| 07 | 01 | 891010 | 19.45 | 45 | 05 | 22 | 12 | 01 | 4 272 | 02 29 S |
| 07 | 02 | 891010 | 19.45 | 05 | 22 | 45 | 12 | 01 | 4 272 | 02 29 S |
| 07 | 03 | 891010 | 19.45 | 22 | 45 | 05 | 12 | 01 | 3 272 | 02 29 S |
| 07 | 04 | 891010 | 19.45 | 22 | 45 | 05 | 12 | 01 | 3 272 | 02 28 S |
| 08 | 01 | 891010 | 19.45 | 01 | 51 | 74 | 12 | 01 | 3 272 | 02 28 S |
| 08 | 02 | 891010 | 19.45 | 01 | 51 | 74 | 12 | 01 | 4 272 | 02 29 S |
| 08 | 03 | 891010 | 19.45 | 01 | 51 | 74 | 01 | 4 272 | 02 29 S | 097 41 W |
| 08 | 04 | 891010 | 19.45 | 74 | 01 | 51 | 12 | 02 | 4 292 | 02 29 S |
| 08 | 05 | 891010 | 19.45 | 74 | 01 | 51 | 11 | 02 | 4 272 | 02 28 S |
| 08 | 06 | 891010 | 19.45 | 51 | 74 | 01 | 3 | 272 | 02 29 S | 097 46 W |
| 08 | 07 | 891010 | 19.45 | 51 | 74 | 01 | 3 | 272 | 02 29 S | 097 52 W |
| 09 | 01 | 891010 | 19.45 | 45 | 05 | 22 | 05 | 22 | 05 | 3 272 |
| 09 | 02 | 891010 | 19.45 | 05 | 22 | 45 | 05 | 22 | 05 | 3 272 |
| 09 | 03 | 891010 | 19.45 | 22 | 45 | 05 | 22 | 05 | 22 | 3 272 |
| 09 | 04 | 891010 | 19.45 | 45 | 05 | 22 | 05 | 22 | 05 | 3 272 |
| 09 | 05 | 891010 | 19.45 | 74 | 01 | 51 | 01 | 51 | 01 | 3 272 |
| 10 | 01 | 891010 | 19.45 | 74 | 01 | 51 | 01 | 51 | 01 | 3 273 |
| 01 | 02 | 891011 | 19.45 | 45 | 22 | 05 | 45 | 22 | 05 | 3 273 |
| 01 | 03 | 891011 | 19.45 | 22 | 05 | 45 | 22 | 05 | 45 | 3 273 |
| 01 | 04 | 891011 | 19.45 | 05 | 45 | 22 | 05 | 45 | 05 | 3 273 |
| 01 | 05 | 891011 | 19.45 | 45 | 05 | 22 | 05 | 45 | 05 | 3 273 |
| 01 | 06 | 891011 | 19.45 | 01 | 74 | 51 | 01 | 74 | 01 | 3 273 |
| 01 | 07 | 891011 | 19.45 | 51 | 01 | 74 | 01 | 74 | 01 | 4 273 |
| 02 | 01 | 891011 | 19.45 | 74 | 51 | 01 | 06 | 01 | 3 278 | 02 31 S |
| 02 | 02 | 891011 | 19.45 | 22 | 05 | 45 | 05 | 05 | 01 | 3 278 |
| 02 | 03 | 891011 | 19.45 | 05 | 45 | 22 | 05 | 06 | 01 | 3 278 |
| 02 | 04 | 891011 | 19.45 | 45 | 22 | 05 | 06 | 01 | 3 278 | 02 31 S |
| 02 | 05 | 891011 | 19.45 | 22 | 05 | 45 | 06 | 01 | 3 278 | 02 32 S |
| 02 | 06 | 891011 | 19.45 | 05 | 45 | 22 | 06 | 01 | 3 278 | 02 32 S |
| 02 | 07 | 891011 | 19.45 | 45 | 22 | 05 | 12 | 12 | 3 278 | 02 32 S |
| 02 | 08 | 891011 | 19.45 | 51 | 01 | 74 | 12 | 12 | 3 278 | 02 32 S |
| 02 | 09 | 891011 | 19.45 | 74 | 51 | 01 | 12 | 12 | 3 278 | 02 32 S |
| 02 | 10 | 891011 | 19.45 | 01 | 74 | 51 | 12 | 12 | 3 278 | 02 32 S |
| 02 | 11 | 891011 | 19.45 | 22 | 05 | 45 | 12 | 12 | 3 278 | 02 32 S |
| 02 | 12 | 891011 | 19.45 | 05 | 45 | 22 | 05 | 45 | 01 | 3 278 |
| 03 | 01 | 891011 | 19.45 | 45 | 01 | 74 | 51 | 01 | 11 | 02 |
| 03 | 02 | 891011 | 19.45 | 45 | 22 | 05 | 05 | 05 | 11 | 02 |
| 03 | 03 | 891011 | 19.45 | 22 | 05 | 45 | 05 | 05 | 11 | 02 |
| 03 | 04 | 891011 | 19.45 | 01 | 74 | 51 | 01 | 74 | 01 | 3 292 |
| 03 | 05 | 01 | 891011 | 19.45 | 22 | 05 | 45 | 22 | 05 | 4 280 |
| 01 | 01 | 891012 | 19.45 | 74 | 51 | 01 | 12 | 02 | 3 292 | 02 20 S |
| 01 | 02 | 891012 | 19.45 | 74 | 51 | 01 | 51 | 01 | 4 280 | 02 25 S |
| 02 | 03 | 891012 | 19.45 | 01 | 74 | 51 | 01 | 74 | 01 | 4 280 |
| 02 | 04 | 891012 | 19.45 | 45 | 51 | 01 | 51 | 51 | 01 | 4 280 |
| 02 | 05 | 01 | 891012 | 19.45 | 74 | 51 | 01 | 74 | 01 | 4 280 |
| 01 | 01 | 891012 | 19.45 | 74 | 51 | 01 | 51 | 01 | 4 280 | 02 23 S |
| 02 | 02 | 891012 | 19.45 | 51 | 01 | 74 | 01 | 74 | 01 | 4 280 |
| 02 | 03 | 891012 | 19.45 | 01 | 74 | 51 | 01 | 74 | 01 | 4 280 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|-------------------|-----------------------------|---------------|------------------|----------------------|-----------------------|--------------|
| 02 | 04 | 891012 | 19.45 | 22 | 45 | 05 | 280 | 02 | 22 | 5 |
| 02 | 05 | 891012 | 19.45 | 05 | 05 | 22 | 280 | 02 | 22 | 5 |
| 02 | 06 | 891012 | 19.45 | 05 | 22 | 45 | 280 | 02 | 21 | 5 |
| 03 | 01 | 891012 | 19.45 | 22 | 45 | 05 | 02 | 21 | 5 | 30 |
| 03 | 02 | 891012 | 19.45 | 45 | 05 | 22 | 02 | 19 | 5 | 30 |
| 03 | 03 | 891012 | 19.45 | 51 | 74 | 01 | 01 | 103 | 38 | w |
| 03 | 04 | 891012 | 19.45 | 01 | 51 | 74 | 06 | 01 | 4 | 280 |
| 03 | 05 | 891012 | 19.45 | 01 | 51 | 74 | 06 | 01 | 4 | 280 |
| 03 | 06 | 891012 | 19.45 | 05 | 22 | 45 | 02 | 17 | 5 | 104 |
| 03 | 07 | 891012 | 19.45 | 05 | 22 | 45 | 02 | 17 | s | 00 |
| 03 | 08 | 891012 | 19.45 | 22 | 45 | 05 | 12 | 12 | 4 | 275 |
| 03 | 09 | 891012 | 19.45 | 45 | 05 | 22 | 12 | 12 | 4 | 275 |
| 03 | 10 | 891012 | 19.45 | 05 | 22 | 45 | 05 | 12 | 12 | 4 |
| 03 | 11 | 891012 | 19.45 | 22 | 45 | 05 | 22 | 12 | 12 | 4 |
| 03 | 12 | 891012 | 19.45 | 45 | 05 | 22 | 12 | 01 | 4 | 275 |
| 03 | 13 | 891012 | 19.45 | 01 | 51 | 74 | 12 | 01 | 4 | 275 |
| 03 | 14 | 891012 | 19.45 | 74 | 01 | 51 | 12 | 01 | 4 | 275 |
| 03 | 15 | 891012 | 19.45 | 74 | 01 | 51 | 12 | 01 | 4 | 275 |
| 03 | 16 | 891012 | 19.45 | 51 | 74 | 01 | 12 | 01 | 4 | 275 |
| 03 | 17 | 891012 | 19.45 | 05 | 22 | 45 | 05 | 12 | 02 | 4 |
| 03 | 18 | 891012 | 19.45 | 45 | 05 | 22 | 11 | 02 | 4 | 275 |
| 03 | 19 | 891012 | 19.45 | 05 | 22 | 45 | 11 | 02 | 4 | 295 |
| 03 | 20 | 891012 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 295 |
| 03 | 21 | 891012 | 19.45 | 74 | 01 | 51 | 11 | 03 | 4 | 295 |
| 03 | 22 | 891012 | 19.45 | 51 | 74 | 01 | 11 | 03 | 4 | 295 |
| 03 | 23 | 891012 | 19.45 | 01 | 51 | 74 | 11 | 03 | 4 | 295 |
| 01 | 01 | 891013 | 19.45 | 05 | 45 | 22 | 05 | 11 | 03 | 4 |
| 01 | 02 | 891013 | 19.45 | 45 | 22 | 05 | 22 | 05 | 11 | 03 |
| 01 | 03 | 891013 | 19.45 | 01 | 51 | 74 | 06 | 02 | 4 | 274 |
| 01 | 04 | 891013 | 19.45 | 74 | 01 | 51 | 06 | 02 | 4 | 274 |
| 01 | 05 | 891013 | 19.45 | 74 | 01 | 51 | 06 | 02 | 5 | 274 |
| 01 | 06 | 891013 | 19.45 | 74 | 01 | 51 | 06 | 02 | 5 | 274 |
| 02 | 01 | 891013 | 19.45 | 74 | 01 | 51 | 06 | 02 | 5 | 274 |
| 02 | 02 | 891013 | 19.45 | 51 | 74 | 01 | 06 | 02 | 5 | 274 |
| 02 | 03 | 891013 | 19.45 | 22 | 05 | 45 | 06 | 01 | 5 | 274 |
| 02 | 04 | 891013 | 19.45 | 05 | 45 | 22 | 06 | 01 | 6 | 274 |
| 02 | 05 | 891013 | 19.45 | 45 | 22 | 05 | 06 | 01 | 6 | 274 |
| 02 | 06 | 891013 | 19.45 | 22 | 05 | 45 | 06 | 01 | 6 | 274 |
| 02 | 07 | 891013 | 19.45 | 05 | 45 | 22 | 06 | 01 | 5 | 274 |
| 02 | 08 | 891013 | 19.45 | 45 | 22 | 05 | 06 | 01 | 5 | 274 |
| 02 | 09 | 891013 | 19.45 | 74 | 01 | 51 | 06 | 01 | 5 | 274 |
| 02 | 10 | 891013 | 19.45 | 51 | 74 | 01 | 06 | 12 | 5 | 274 |
| 03 | 01 | 891013 | 19.45 | 01 | 51 | 74 | 12 | 12 | 01 | 5 |
| 03 | 02 | 891013 | 19.45 | 22 | 05 | 45 | 12 | 12 | 01 | 5 |
| 03 | 03 | 891013 | 19.45 | 05 | 45 | 22 | 05 | 12 | 01 | 5 |
| 04 | 01 | 891013 | 19.45 | 45 | 22 | 05 | 05 | 12 | 01 | 5 |
| 04 | 02 | 891013 | 19.45 | 22 | 05 | 45 | 12 | 01 | 5 | 274 |
| 04 | 03 | 891013 | 19.45 | 22 | 05 | 45 | 12 | 01 | 5 | 274 |
| 04 | 04 | 891013 | 19.45 | 05 | 45 | 22 | 11 | 01 | 5 | 294 |
| 04 | 05 | 891013 | 19.45 | 45 | 22 | 11 | 01 | 5 | 294 | 6.48 |
| 04 | 06 | 891013 | 19.45 | 51 | 74 | 01 | 11 | 02 | 5 | 294 |
| 04 | 07 | 891013 | 19.45 | 01 | 51 | 74 | 11 | 02 | 5 | 294 |
| 04 | 08 | 891013 | 19.45 | 74 | 01 | 51 | 11 | 02 | 5 | 294 |
| 04 | 09 | 891013 | 19.45 | 22 | 05 | 45 | 11 | 02 | 4 | 294 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | | | |
|--------|-----|--------|----------------|----------------|-------|------|-----------------------------|---------------|------------------|----------------------|-----------------------|--------------|----------|----------|------|
| | | | | left | right | rec. | | | | | | | | | |
| 04 | 10 | 891013 | 19.45 | 05 | 45 | 22 | 11 | 03 | 4 | 294 | 01 54 S | 108 33 W | 6.81 | | |
| 04 | 11 | 891013 | 19.45 | 45 | 22 | 05 | 11 | 03 | 4 | 294 | 01 54 S | 108 33 W | 6.48 | | |
| 04 | 12 | 891013 | 19.45 | 22 | 05 | 45 | 12 | 03 | 4 | 272 | 02 00 S | 109 45 W | 2.59 | | |
| 04 | 13 | 891013 | 19.45 | 22 | 05 | 45 | 12 | 03 | 4 | 272 | 02 01 S | 109 54 W | 3.89 | | |
| 04 | 14 | 891013 | 19.45 | 05 | 45 | 22 | 12 | 03 | 4 | 272 | 02 01 S | 109 59 W | 3.89 | | |
| 01 | 01 | 891014 | 18.52 | 51 | 74 | 01 | 4 | 267 | 02 00 S | 109 45 W | 11.42 | | | | |
| 01 | 02 | 891014 | 18.52 | 01 | 51 | 74 | 4 | 267 | 02 01 S | 109 54 W | 3.70 | | | | |
| 01 | 03 | 891014 | 14.82 | 01 | 51 | 74 | 4 | 267 | 02 00 S | 109 54 W | 5.19 | | | | |
| 01 | 04 | 891014 | 14.82 | 74 | 01 | 51 | 4 | 267 | 02 01 S | 109 59 W | 1.73 | | | | |
| 01 | 05 | 891014 | 14.82 | 74 | 01 | 51 | 4 | 290 | 02 01 S | 109 59 W | 1.98 | | | | |
| 01 | 06 | 891014 | 14.82 | 74 | 01 | 51 | 4 | 300 | 02 00 S | 110 07 W | 0.25 | | | | |
| 02 | 01 | 891014 | 19.45 | 01 | 51 | 74 | 4 | 268 | 02 00 S | 110 07 W | 11.34 | | | | |
| 02 | 02 | 891014 | 19.45 | 74 | 01 | 51 | 4 | 268 | 02 00 S | 110 18 W | 2.59 | | | | |
| 03 | 01 | 891014 | 19.45 | 51 | 74 | 01 | 4 | 268 | 02 00 S | 110 25 W | 13.61 | | | | |
| 03 | 02 | 891014 | 19.45 | 05 | 22 | 45 | 12 | 12 | 4 | 268 | 02 00 S | 110 25 W | 6.48 | | |
| 03 | 03 | 891014 | 19.45 | 22 | 45 | 05 | 12 | 12 | 4 | 268 | 02 01 S | 110 36 W | 6.48 | | |
| 03 | 04 | 891014 | 19.45 | 45 | 05 | 22 | 12 | 12 | 4 | 270 | 02 01 S | 110 46 W | 3.24 | | |
| 03 | 05 | 891014 | 19.45 | 45 | 05 | 22 | 12 | 12 | 5 | 270 | 02 01 S | 110 52 W | 3.24 | | |
| 03 | 06 | 891014 | 19.45 | 05 | 22 | 45 | 12 | 01 | 5 | 270 | 02 01 S | 110 52 W | 6.48 | | |
| 03 | 07 | 891014 | 19.45 | 22 | 45 | 05 | 12 | 01 | 5 | 270 | 02 01 S | 110 59 W | 6.48 | | |
| 03 | 08 | 891014 | 19.45 | 45 | 05 | 22 | 12 | 01 | 5 | 270 | 02 01 S | 110 46 W | 10.70 | | |
| 03 | 09 | 891014 | 19.45 | 74 | 01 | 51 | 12 | 01 | 5 | 272 | 02 01 S | 110 52 W | 2.27 | | |
| 03 | 10 | 891014 | 19.45 | 74 | 01 | 51 | 12 | 01 | 5 | 272 | 02 01 S | 110 52 W | 12.96 | | |
| 03 | 11 | 891014 | 19.45 | 51 | 74 | 01 | 11 | 01 | 5 | 292 | 01 57 S | 111 09 W | 12.96 | | |
| 03 | 12 | 891014 | 19.45 | 01 | 51 | 74 | 11 | 02 | 4 | 292 | 01 57 S | 111 09 W | 6.48 | | |
| 03 | 13 | 891014 | 19.45 | 05 | 22 | 45 | 11 | 02 | 4 | 292 | 01 57 S | 111 09 W | 7.13 | | |
| 03 | 14 | 891014 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 292 | 01 53 S | 111 19 W | 1.62 | | |
| 03 | 15 | 891014 | 19.45 | 45 | 05 | 22 | 11 | 02 | 4 | 292 | 01 52 S | 111 24 W | 8.10 | | |
| 04 | 01 | 891014 | 19.45 | 05 | 22 | 45 | 11 | 03 | 4 | 292 | 02 02 S | 112 50 W | 15.56 | | |
| 04 | 02 | 891014 | 19.45 | 01 | 74 | 51 | 11 | 03 | 4 | 270 | 02 03 S | 113 00 W | 4.21 | | |
| 04 | 03 | 891015 | 19.45 | 51 | 01 | 74 | 06 | 02 | 3 | 270 | 02 03 S | 113 06 W | 11.34 | | |
| 02 | 04 | 891015 | 19.45 | 74 | 01 | 74 | 01 | 3 | 330 | 02 03 S | 113 06 W | 1.62 | | | |
| 02 | 05 | 891015 | 19.45 | 74 | 51 | 01 | 3 | 330 | 02 03 S | 113 06 W | 1.94 | | | | |
| 02 | 06 | 891015 | 19.45 | 74 | 51 | 01 | 3 | 260 | 02 00 S | 113 09 W | 5.83 | | | | |
| 03 | 01 | 891015 | 19.45 | 74 | 51 | 01 | 3 | 269 | 02 00 S | 113 09 W | 12.96 | | | | |
| 03 | 02 | 891015 | 19.45 | 01 | 74 | 51 | 06 | 01 | 3 | 269 | 02 00 S | 113 19 W | 7.13 | | |
| 03 | 03 | 891015 | 19.45 | 51 | 05 | 22 | 45 | 06 | 01 | 3 | 269 | 02 02 S | 113 39 W | 5.83 | |
| 03 | 04 | 891015 | 19.45 | 22 | 45 | 05 | 22 | 06 | 01 | 3 | 269 | 02 02 S | 113 47 W | 3.57 | |
| 03 | 05 | 891015 | 19.45 | 45 | 05 | 22 | 45 | 06 | 01 | 3 | 269 | 02 01 S | 113 30 W | 6.48 | |
| 04 | 01 | 891015 | 19.45 | 05 | 22 | 45 | 06 | 01 | 3 | 269 | 02 05 S | 113 54 W | 6.81 | | |
| 04 | 02 | 891015 | 19.45 | 22 | 45 | 05 | 22 | 06 | 01 | 3 | 269 | 02 05 S | 113 54 W | 6.16 | |
| 04 | 03 | 891015 | 19.45 | 45 | 05 | 22 | 12 | 03 | 3 | 269 | 02 02 S | 113 39 W | 12.96 | | |
| 04 | 04 | 891015 | 19.45 | 74 | 51 | 01 | 12 | 03 | 3 | 269 | 02 02 S | 113 47 W | 10.05 | | |
| 04 | 05 | 891015 | 19.45 | 01 | 74 | 51 | 12 | 04 | 4 | 269 | 02 05 S | 113 54 W | 8.43 | | |
| 05 | 01 | 891015 | 19.45 | 51 | 01 | 74 | 06 | 01 | 4 | 269 | 02 05 S | 113 54 W | 1.94 | | |
| 05 | 02 | 891015 | 19.45 | 51 | 01 | 74 | 06 | 01 | 4 | 269 | 02 06 S | 114 01 W | 7.78 | | |
| 05 | 03 | 891015 | 19.45 | 05 | 22 | 45 | 05 | 12 | 01 | 4 | 269 | 02 07 S | 114 10 W | 6.48 | |
| 05 | 04 | 891015 | 19.45 | 22 | 45 | 05 | 22 | 12 | 01 | 4 | 288 | 02 07 S | 114 12 W | 2.27 | |
| 05 | 05 | 891015 | 19.45 | 45 | 05 | 22 | 45 | 11 | 02 | 4 | 288 | 02 07 S | 114 12 W | 3.57 | |
| 06 | 01 | 891015 | 19.45 | 05 | 22 | 45 | 05 | 22 | 11 | 02 | 4 | 288 | 02 07 S | 114 12 W | 6.48 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | | sun position horiz. vert. | beauf. no. | course (deg.) | position latitude longitude in leg | | | km 2.59 | | |
|--------|-----|--------|----------------|----------------|-------|---------------------------------|---------------|------------------|--|-----|-----|------------|----------|----------|
| | | | | left | right | | | | 02 | 06 | s | | | |
| 06 | 03 | 891015 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 288 | 02 | 06 | 114 17 w | |
| 06 | 04 | 891015 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 300 | 02 | 06 | 114 17 w | |
| 06 | 05 | 891015 | 19.45 | 22 | 45 | 05 | 10 | 02 | 4 | 310 | 02 | 06 | 114 17 w | |
| 06 | 06 | 891015 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 288 | 02 | 04 | 114 21 w | |
| 06 | 07 | 891015 | 19.45 | 22 | 45 | 05 | 22 | 01 | 3 | 288 | 02 | 03 | 114 26 w | |
| 06 | 08 | 891015 | 19.45 | 01 | 74 | 51 | 11 | 02 | 3 | 288 | 02 | 03 | 114 37 w | |
| 06 | 09 | 891015 | 19.45 | 51 | 01 | 74 | 11 | 03 | 3 | 288 | 01 | 59 | 114 37 w | |
| 07 | 01 | 891015 | 19.45 | 05 | 22 | 45 | 11 | 03 | 3 | 288 | 02 | 03 | 116 18 w | |
| 07 | 02 | 891015 | 19.45 | 05 | 22 | 45 | 01 | 51 | 3 | 280 | 02 | 05 | 115 59 w | |
| 01 | 01 | 891016 | 19.45 | 74 | 01 | 06 | 02 | 4 | 280 | 02 | 04 | 116 05 w | | |
| 02 | 01 | 891016 | 19.45 | 51 | 74 | 01 | 06 | 02 | 4 | 280 | 02 | 03 | 116 15 w | |
| 03 | 01 | 891016 | 19.45 | 45 | 22 | 05 | 06 | 02 | 4 | 280 | 02 | 03 | 116 18 w | |
| 03 | 02 | 891016 | 19.45 | 22 | 05 | 45 | 06 | 02 | 4 | 280 | 02 | 02 | 116 22 w | |
| 03 | 03 | 891016 | 19.45 | 05 | 45 | 22 | 06 | 02 | 4 | 280 | 02 | 02 | 116 22 w | |
| 03 | 04 | 891016 | 19.45 | 05 | 45 | 22 | 05 | 06 | 02 | 4 | 280 | 02 | 02 | 116 29 w |
| 03 | 05 | 891016 | 19.45 | 22 | 05 | 45 | 06 | 02 | 4 | 280 | 02 | 01 | 116 34 w | |
| 03 | 06 | 891016 | 19.45 | 51 | 74 | 01 | 06 | 01 | 4 | 275 | 02 | 01 | 116 34 w | |
| 03 | 07 | 891016 | 19.45 | 01 | 51 | 74 | 06 | 01 | 4 | 275 | 02 | 01 | 116 34 w | |
| 04 | 01 | 891016 | 19.45 | 01 | 51 | 74 | 06 | 01 | 4 | 270 | 02 | 01 | 116 34 w | |
| 04 | 02 | 891016 | 19.45 | 74 | 01 | 51 | 06 | 01 | 4 | 270 | 02 | 03 | 12.96 | |
| 04 | 03 | 891016 | 19.45 | 05 | 45 | 22 | 05 | 06 | 02 | 4 | 250 | 02 | 04 | 12.96 |
| 04 | 04 | 891016 | 19.45 | 45 | 22 | 05 | 12 | 01 | 4 | 250 | 02 | 04 | 12.96 | |
| 05 | 01 | 891016 | 19.45 | 22 | 05 | 45 | 12 | 01 | 4 | 250 | 02 | 04 | 12.96 | |
| 06 | 02 | 891016 | 19.45 | 22 | 05 | 45 | 12 | 01 | 4 | 250 | 02 | 06 | 12.96 | |
| 06 | 03 | 891016 | 19.45 | 74 | 01 | 51 | 11 | 01 | 4 | 250 | 02 | 11 | 11 w | |
| 06 | 04 | 891016 | 19.45 | 74 | 01 | 51 | 11 | 02 | 4 | 290 | 02 | 11 | 11 w | |
| 06 | 05 | 891016 | 19.45 | 51 | 74 | 01 | 11 | 02 | 4 | 290 | 02 | 08 | 117 15 w | |
| 06 | 06 | 891016 | 19.45 | 05 | 45 | 22 | 11 | 02 | 4 | 290 | 02 | 11 | 35 w | |
| 06 | 07 | 891016 | 19.45 | 45 | 22 | 05 | 11 | 02 | 4 | 290 | 02 | 03 | 116 56 w | |
| 06 | 08 | 891016 | 19.45 | 22 | 05 | 45 | 12 | 12 | 4 | 250 | 02 | 03 | 116 29 w | |
| 06 | 09 | 891016 | 19.45 | 45 | 22 | 05 | 12 | 12 | 4 | 250 | 02 | 04 | 117 08 w | |
| 06 | 10 | 891016 | 19.45 | 45 | 22 | 05 | 12 | 01 | 4 | 250 | 02 | 04 | 117 11 w | |
| 06 | 11 | 891016 | 19.45 | 74 | 01 | 51 | 11 | 02 | 4 | 290 | 02 | 07 | 117 15 w | |
| 06 | 12 | 891016 | 19.45 | 51 | 74 | 01 | 11 | 03 | 4 | 290 | 02 | 02 | 117 58 w | |
| 06 | 13 | 891016 | 19.45 | 51 | 01 | 74 | 01 | 03 | 4 | 290 | 02 | 00 | 118 02 w | |
| 01 | 01 | 891017 | 19.45 | 45 | 22 | 05 | 11 | 02 | 4 | 290 | 02 | 04 | 117 45 w | |
| 02 | 01 | 891017 | 19.45 | 22 | 05 | 45 | 06 | 02 | 4 | 290 | 02 | 02 | 117 52 w | |
| 03 | 01 | 891017 | 19.45 | 74 | 01 | 06 | 02 | 5 | 275 | 02 | 08 | 119 30 w | | |
| 04 | 01 | 891017 | 19.45 | 74 | 01 | 06 | 02 | 5 | 275 | 02 | 07 | 119 35 w | | |
| 04 | 02 | 891017 | 19.45 | 01 | 74 | 51 | 01 | 06 | 02 | 5 | 275 | 02 | 07 | 119 37 w |
| 05 | 01 | 891017 | 19.45 | 51 | 01 | 74 | 01 | 06 | 02 | 5 | 275 | 02 | 05 | 119 49 w |
| 05 | 02 | 891017 | 19.45 | 22 | 05 | 45 | 06 | 01 | 5 | 275 | 02 | 04 | 119 52 w | |
| 06 | 01 | 891017 | 19.45 | 05 | 22 | 45 | 06 | 01 | 5 | 270 | 02 | 01 | 120 08 w | |
| 06 | 02 | 891017 | 19.45 | 05 | 45 | 22 | 06 | 01 | 5 | 270 | 02 | 01 | 120 31 w | |
| 06 | 03 | 891017 | 19.45 | 45 | 22 | 05 | 06 | 01 | 5 | 270 | 02 | 01 | 120 31 w | |
| 06 | 04 | 891017 | 19.45 | 22 | 05 | 45 | 06 | 01 | 5 | 270 | 02 | 01 | 120 31 w | |
| 06 | 05 | 891017 | 19.45 | 05 | 45 | 22 | 06 | 01 | 5 | 270 | 02 | 01 | 120 31 w | |
| 06 | 06 | 891017 | 19.45 | 01 | 74 | 99 | 06 | 12 | 5 | 270 | 02 | 00 | 120 31 w | |
| 06 | 07 | 891017 | 19.45 | 51 | 01 | 74 | 51 | 06 | 12 | 5 | 270 | 02 | 00 | 120 31 w |
| 06 | 08 | 891017 | 19.45 | 74 | 51 | 01 | 74 | 12 | 5 | 270 | 02 | 00 | 120 31 w | |
| 06 | 09 | 891017 | 19.45 | 74 | 51 | 01 | 74 | 11 | 5 | 270 | 02 | 00 | 120 31 w | |
| 06 | 10 | 891017 | 19.45 | 45 | 22 | 06 | 01 | 5 | 270 | 02 | 00 | 120 31 w | | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|------------------|----------------|--------------------------------|---------------|------------------|-----------------------------------|--------------|
| 06 | 11 | 891017 | 19.45 | 22 | 45 | 05 | 12 | 01 | 5 | 270 |
| 06 | 12 | 891017 | 19.45 | 05 | 45 | 22 | 12 | 01 | 5 | 270 |
| 07 | 01 | 891017 | 19.45 | 05 | 45 | 22 | 12 | 01 | 5 | 270 |
| 07 | 02 | 891017 | 19.45 | 45 | 22 | 05 | 12 | 01 | 5 | 270 |
| 07 | 03 | 891017 | 19.45 | 45 | 22 | 05 | 12 | 01 | 5 | 250 |
| 07 | 04 | 891017 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 290 |
| 07 | 05 | 891017 | 19.45 | 22 | 05 | 45 | 11 | 01 | 5 | 290 |
| 07 | 06 | 891017 | 19.45 | 05 | 45 | 22 | 11 | 02 | 5 | 290 |
| 07 | 07 | 891017 | 19.45 | 51 | 01 | 74 | 11 | 02 | 5 | 290 |
| 07 | 08 | 891017 | 19.45 | 51 | 01 | 74 | 01 | 01 | 5 | 290 |
| 07 | 09 | 891017 | 19.45 | 01 | 74 | 51 | 11 | 02 | 5 | 290 |
| 07 | 10 | 891017 | 19.45 | 01 | 74 | 51 | 10 | 02 | 5 | 305 |
| 07 | 11 | 891017 | 19.45 | 45 | 22 | 05 | 10 | 03 | 5 | 290 |
| 07 | 12 | 891017 | 19.45 | 22 | 05 | 45 | 11 | 03 | 5 | 290 |
| 08 | 01 | 891017 | 19.45 | 05 | 45 | 22 | 11 | 03 | 5 | 290 |
| 09 | 02 | 891017 | 19.45 | 45 | 22 | 05 | 11 | 03 | 5 | 290 |
| 09 | 03 | 891017 | 19.45 | 45 | 22 | 05 | 01 | 03 | 4 | 245 |
| 01 | 01 | 891019 | 18.52 | 22 | 45 | 05 | 22 | 05 | 5 | 109 |
| 01 | 02 | 891019 | 18.52 | 45 | 05 | 22 | 11 | 03 | 5 | 109 |
| 02 | 01 | 891019 | 18.52 | 01 | 74 | 51 | 12 | 02 | 5 | 109 |
| 02 | 02 | 891019 | 18.52 | 01 | 74 | 51 | 01 | 02 | 5 | 101 |
| 02 | 03 | 891019 | 18.52 | 51 | 01 | 74 | 01 | 02 | 5 | 080 |
| 02 | 04 | 891019 | 18.52 | 74 | 51 | 01 | 02 | 05 | 5 | 080 |
| 02 | 05 | 891019 | 18.52 | 45 | 05 | 22 | 45 | 01 | 01 | 080 |
| 02 | 06 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 01 | 01 | 080 |
| 02 | 07 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 01 | 01 | 080 |
| 02 | 08 | 891019 | 18.52 | 22 | 45 | 05 | 22 | 45 | 01 | 01 |
| 02 | 09 | 891019 | 18.52 | 45 | 05 | 22 | 45 | 12 | 01 | 01 |
| 02 | 10 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 12 | 01 | 01 |
| 02 | 11 | 891019 | 18.52 | 22 | 45 | 05 | 22 | 45 | 12 | 01 |
| 02 | 12 | 891019 | 18.52 | 51 | 01 | 74 | 01 | 01 | 5 | 115 |
| 02 | 13 | 891019 | 18.52 | 74 | 51 | 01 | 12 | 12 | 5 | 115 |
| 03 | 01 | 891019 | 18.52 | 01 | 74 | 51 | 01 | 05 | 5 | 105 |
| 04 | 02 | 891019 | 18.52 | 45 | 05 | 22 | 45 | 05 | 01 | 05 |
| 04 | 03 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 01 | 01 | 05 |
| 04 | 04 | 891019 | 18.52 | 22 | 45 | 05 | 22 | 45 | 05 | 01 |
| 04 | 05 | 891019 | 18.52 | 45 | 05 | 22 | 45 | 05 | 01 | 05 |
| 04 | 06 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 02 | 5 | 105 |
| 04 | 07 | 891019 | 18.52 | 22 | 45 | 05 | 22 | 45 | 05 | 02 |
| 04 | 08 | 891019 | 18.52 | 74 | 51 | 01 | 05 | 02 | 5 | 105 |
| 04 | 09 | 891019 | 18.52 | 01 | 74 | 51 | 05 | 02 | 5 | 105 |
| 04 | 10 | 891019 | 18.52 | 01 | 74 | 51 | 05 | 02 | 5 | 105 |
| 04 | 11 | 891019 | 18.52 | 45 | 05 | 22 | 45 | 05 | 03 | 6 |
| 04 | 12 | 891019 | 18.52 | 05 | 22 | 45 | 05 | 02 | 5 | 105 |
| 04 | 01 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 05 | 5 | 101 |
| 01 | 02 | 891020 | 18.52 | 01 | 51 | 74 | 12 | 03 | 5 | 101 |
| 01 | 03 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 03 | 5 | 080 |
| 01 | 04 | 891020 | 18.52 | 45 | 01 | 51 | 01 | 03 | 5 | 101 |
| 01 | 05 | 891020 | 18.52 | 74 | 01 | 51 | 01 | 04 | 4 | 080 |
| 01 | 06 | 891020 | 18.52 | 51 | 74 | 01 | 01 | 02 | 5 | 080 |
| 01 | 07 | 891020 | 18.52 | 51 | 74 | 01 | 01 | 02 | 4 | 080 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right rec. | sun position horz. vert. | beauf. (deg.) | course no. | position latitude longitude | km in leg |
|--------|-----|--------|----------------|------------------|------------------------|--------------------------------|------------------|---------------|-----------------------------------|--------------|
| 01 | 08 | 891020 | 18.52 | 45 | 22 | 05 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 09 | 891020 | 18.52 | 22 | 05 | 45 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 10 | 891020 | 18.52 | 05 | 45 | 22 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 11 | 891020 | 18.52 | 45 | 22 | 05 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 12 | 891020 | 18.52 | 22 | 05 | 45 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 13 | 891020 | 18.52 | 05 | 45 | 22 | 01 | 02 | 03 38 S 116 50 W | 6.17 |
| 01 | 14 | 891020 | 18.52 | 74 | 01 | 51 | 01 | 01 | 03 35 S 116 39 W | 6.17 |
| 01 | 15 | 891020 | 18.52 | 51 | 74 | 01 | 01 | 01 | 03 37 S 116 39 W | 6.17 |
| 02 | 01 | 891020 | 18.52 | 51 | 74 | 01 | 01 | 01 | 03 37 S 116 39 W | 6.17 |
| 02 | 02 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 01 | 03 37 S 116 39 W | 6.17 |
| 03 | 02 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 01 | 03 37 S 116 39 W | 6.17 |
| 03 | 03 | 891020 | 18.52 | 45 | 22 | 05 | 12 | 12 | 03 35 S 116 23 W | 8.95 |
| 03 | 04 | 891020 | 18.52 | 22 | 05 | 45 | 12 | 12 | 03 35 S 116 23 W | 8.95 |
| 04 | 01 | 891020 | 18.52 | 51 | 22 | 05 | 02 | 02 | 03 33 S 116 21 W | 7.72 |
| 04 | 02 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 01 | 03 33 S 116 21 W | 7.72 |
| 03 | 03 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 01 | 03 33 S 116 17 W | 3.40 |
| 04 | 03 | 891020 | 18.52 | 45 | 22 | 05 | 12 | 12 | 03 33 S 116 17 W | 3.40 |
| 04 | 04 | 891020 | 18.52 | 22 | 05 | 45 | 12 | 12 | 03 33 S 116 16 W | 6.17 |
| 04 | 05 | 891020 | 18.52 | 01 | 51 | 74 | 01 | 01 | 03 34 S 116 12 W | 4.94 |
| 04 | 06 | 891020 | 18.52 | 05 | 45 | 22 | 05 | 02 | 03 34 S 116 12 W | 4.94 |
| 01 | 01 | 891021 | 19.45 | 05 | 45 | 22 | 12 | 03 | 03 48 S 115 45 W | 6.48 |
| 01 | 02 | 891021 | 19.45 | 45 | 22 | 05 | 02 | 02 | 03 48 S 115 45 W | 6.48 |
| 01 | 03 | 891021 | 19.45 | 22 | 05 | 45 | 22 | 05 | 03 50 S 115 42 W | 0.93 |
| 02 | 01 | 891021 | 19.45 | 01 | 74 | 01 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 02 | 02 | 891021 | 19.45 | 51 | 74 | 01 | 01 | 02 | 03 50 S 115 42 W | 0.93 |
| 02 | 03 | 891021 | 19.45 | 74 | 01 | 01 | 01 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 01 | 891021 | 19.45 | 51 | 01 | 01 | 01 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 02 | 891021 | 19.45 | 22 | 05 | 45 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 03 | 891021 | 19.45 | 05 | 45 | 22 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 04 | 891021 | 19.45 | 45 | 22 | 05 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 05 | 891021 | 19.45 | 22 | 05 | 45 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 06 | 891021 | 19.45 | 05 | 45 | 22 | 01 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 07 | 891021 | 19.45 | 05 | 45 | 22 | 02 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 08 | 891021 | 19.45 | 05 | 45 | 22 | 02 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 09 | 891021 | 19.45 | 05 | 45 | 22 | 02 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 10 | 891021 | 19.45 | 45 | 22 | 05 | 12 | 12 | 03 50 S 115 42 W | 0.93 |
| 03 | 11 | 891021 | 19.45 | 51 | 01 | 74 | 12 | 12 | 03 50 S 115 42 W | 0.93 |
| 03 | 12 | 891021 | 19.45 | 74 | 01 | 01 | 02 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 13 | 891021 | 19.45 | 01 | 74 | 01 | 04 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 14 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 15 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 16 | 891021 | 19.45 | 45 | 22 | 05 | 01 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 17 | 891021 | 19.45 | 22 | 05 | 45 | 01 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 18 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 19 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 01 | 03 50 S 115 42 W | 0.93 |
| 03 | 20 | 891021 | 19.45 | 45 | 22 | 05 | 05 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 21 | 891021 | 19.45 | 74 | 01 | 01 | 05 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 22 | 891021 | 19.45 | 01 | 74 | 01 | 05 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 23 | 891021 | 19.45 | 51 | 01 | 74 | 05 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 24 | 891021 | 19.45 | 22 | 05 | 45 | 05 | 05 | 03 50 S 115 42 W | 0.93 |
| 03 | 25 | 891021 | 19.45 | 22 | 05 | 45 | 05 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 26 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 02 | 03 50 S 115 42 W | 0.93 |
| 03 | 27 | 891021 | 19.45 | 05 | 45 | 22 | 05 | 02 | 03 50 S 115 42 W | 0.93 |
| 01 | 01 | 891022 | 19.45 | 51 | 74 | 01 | 01 | 05 | 04 46 S 111 21 W | 12.96 |
| 01 | 02 | 891022 | 19.45 | 01 | 51 | 74 | 01 | 05 | 04 46 S 111 21 W | 12.96 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position left right vert. | beauf. horz. | course (deg.) | position latitude | longitude | km in leg | | | |
|--------|-----|--------|----------------|-------------------|-------------------------------------|-----------------|------------------|----------------------|-----------|--------------|----------|----------|-------|
| 01 | 03 | 891022 | 19.45 | 01 | 51 | 74 | 5 | 103 | 04 48 S | 111 12 W | 4.54 | | |
| 01 | 04 | 891022 | 19.45 | 01 | 51 | 51 | 5 | 103 | 04 50 S | 111 04 W | 12.96 | | |
| 01 | 05 | 891022 | 19.45 | 45 | 22 | 05 | 5 | 103 | 04 50 S | 111 04 W | 6.48 | | |
| 01 | 06 | 891022 | 19.45 | 22 | 05 | 45 | 5 | 103 | 04 53 S | 110 46 W | 6.16 | | |
| 01 | 07 | 891022 | 19.45 | 05 | 45 | 22 | 5 | 103 | 04 53 S | 110 36 W | 6.81 | | |
| 02 | 01 | 891022 | 19.45 | 45 | 22 | 05 | 5 | 097 | 04 52 S | 110 54 W | 6.48 | | |
| 02 | 02 | 891022 | 19.45 | 22 | 05 | 45 | 5 | 097 | 04 52 S | 110 51 W | 9.40 | | |
| 02 | 03 | 891022 | 19.45 | 01 | 51 | 74 | 5 | 097 | 04 53 S | 110 46 W | 12.96 | | |
| 02 | 04 | 891022 | 19.45 | 74 | 01 | 51 | 5 | 097 | 04 53 S | 110 36 W | 8.10 | | |
| 02 | 05 | 891022 | 19.08 | 74 | 01 | 51 | 5 | 103 | 04 53 S | 110 36 W | 5.09 | | |
| 02 | 06 | 891023 | 19.45 | 74 | 01 | 51 | 03 | 096 | 05 15 S | 107 30 W | 12.32 | | |
| 02 | 07 | 891023 | 19.45 | 51 | 01 | 04 | 01 | 096 | 05 16 S | 107 11 W | 12.64 | | |
| 03 | 01 | 891023 | 19.45 | 01 | 51 | 74 | 05 | 096 | 05 16 S | 107 11 W | 12.96 | | |
| 03 | 02 | 891023 | 19.45 | 45 | 22 | 05 | 01 | 096 | 05 17 S | 107 02 W | 6.48 | | |
| 03 | 03 | 891023 | 19.45 | 22 | 05 | 45 | 01 | 096 | 05 17 S | 107 02 W | 6.48 | | |
| 03 | 04 | 891023 | 19.45 | 05 | 22 | 05 | 02 | 096 | 05 18 S | 107 03 W | 1.94 | | |
| 03 | 05 | 891023 | 19.45 | 45 | 22 | 05 | 02 | 096 | 05 19 S | 106 48 W | 9.72 | | |
| 02 | 01 | 891023 | 19.45 | 05 | 45 | 22 | 05 | 096 | 05 25 S | 105 32 W | 6.48 | | |
| 02 | 02 | 891023 | 19.45 | 45 | 22 | 05 | 01 | 096 | 05 25 S | 105 32 W | 3.89 | | |
| 02 | 03 | 891023 | 19.45 | 22 | 05 | 45 | 01 | 096 | 05 25 S | 105 32 W | 4.21 | | |
| 02 | 04 | 891023 | 19.45 | 05 | 45 | 22 | 01 | 096 | 05 25 S | 105 28 W | 5.83 | | |
| 02 | 05 | 891023 | 19.45 | 45 | 22 | 05 | 02 | 096 | 05 25 S | 105 28 W | 6.48 | | |
| 02 | 06 | 891023 | 19.45 | 01 | 51 | 74 | 01 | 096 | 05 25 S | 105 28 W | 7.45 | | |
| 01 | 01 | 891024 | 19.45 | 74 | 51 | 01 | 03 | 096 | 05 46 S | 102 18 W | 4.86 | | |
| 01 | 02 | 891024 | 19.45 | 74 | 51 | 01 | 03 | 096 | 05 46 S | 102 04 W | 38.24 | | |
| 01 | 03 | 891024 | 19.45 | 01 | 74 | 51 | 01 | 096 | 05 48 S | 101 46 W | 4.21 | | |
| 01 | 04 | 891024 | 19.45 | 51 | 01 | 74 | 01 | 096 | 05 48 S | 101 46 W | 2.27 | | |
| 01 | 05 | 891024 | 19.45 | 45 | 22 | 05 | 02 | 096 | 05 48 S | 101 46 W | 6.48 | | |
| 02 | 01 | 891025 | 19.45 | 51 | 74 | 01 | 05 | 096 | 05 49 S | 101 20 W | 7.45 | | |
| 02 | 02 | 891025 | 19.45 | 22 | 05 | 45 | 02 | 096 | 05 49 S | 101 20 W | 0.32 | | |
| 02 | 03 | 891025 | 19.45 | 74 | 01 | 99 | 05 | 096 | 06 10 S | 098 54 W | 6.16 | | |
| 02 | 04 | 891025 | 19.45 | 05 | 22 | 45 | 12 | 096 | 06 10 S | 098 54 W | 12.96 | | |
| 02 | 05 | 891025 | 19.45 | 45 | 22 | 45 | 01 | 096 | 06 10 S | 098 54 W | 11.73 | | |
| 02 | 06 | 891025 | 19.45 | 22 | 45 | 05 | 12 | 096 | 06 10 S | 098 54 W | 12.35 | | |
| 02 | 07 | 891025 | 19.45 | 74 | 01 | 51 | 03 | 096 | 06 10 S | 098 54 W | 6.17 | | |
| 03 | 01 | 891025 | 19.45 | 74 | 01 | 51 | 04 | 101 | 06 10 S | 098 54 W | 6.17 | | |
| 03 | 02 | 891025 | 19.45 | 74 | 01 | 74 | 12 | 03 | 06 10 S | 098 54 W | 6.17 | | |
| 01 | 01 | 891026 | 19.45 | 51 | 01 | 74 | 01 | 096 | 06 10 S | 098 54 W | 6.17 | | |
| 02 | 02 | 891026 | 18.52 | 51 | 01 | 74 | 01 | 096 | 06 10 S | 098 54 W | 6.17 | | |
| 02 | 03 | 891026 | 18.52 | 74 | 01 | 74 | 01 | 096 | 06 10 S | 098 54 W | 6.17 | | |
| 02 | 04 | 891026 | 18.52 | 22 | 45 | 05 | 02 | 096 | 06 10 S | 098 54 W | 6.17 | | |
| 02 | 05 | 891026 | 18.52 | 45 | 05 | 22 | 45 | 063 | 05 31 S | 097 20 W | 5.56 | | |
| 02 | 06 | 891026 | 18.52 | 05 | 22 | 45 | 05 | 063 | 05 28 S | 097 16 W | 2.47 | | |
| 02 | 07 | 891026 | 18.52 | 22 | 45 | 05 | 05 | 063 | 05 27 S | 097 13 W | 6.17 | | |
| 03 | 01 | 891026 | 18.52 | 01 | 74 | 51 | 07 | 03 | 065 | 04 45 S | 095 43 W | 0.31 | |
| 04 | 02 | 891026 | 18.52 | 01 | 74 | 51 | 07 | 03 | 065 | 04 44 S | 095 38 W | 3.24 | |
| 04 | 03 | 891026 | 18.52 | 45 | 05 | 22 | 01 | 03 | 065 | 04 44 S | 095 38 W | 3.57 | |
| 04 | 04 | 891026 | 18.52 | 74 | 51 | 01 | 03 | 04 | 065 | 04 40 S | 095 33 W | 5.83 | |
| 04 | 05 | 891026 | 18.52 | 05 | 22 | 45 | 01 | 03 | 065 | 04 39 S | 095 29 W | 0.65 | |
| 04 | 06 | 891026 | 18.52 | 45 | 05 | 22 | 45 | 01 | 03 | 065 | 04 39 S | 095 29 W | 6.48 |
| 04 | 07 | 891026 | 18.52 | 22 | 45 | 05 | 22 | 01 | 03 | 065 | 04 39 S | 095 29 W | 10.37 |
| 05 | 01 | 891027 | 19.45 | 22 | 45 | 05 | 02 | 096 | 06 10 S | 098 54 W | 6.48 | | |
| 05 | 02 | 891027 | 19.45 | 22 | 45 | 05 | 02 | 096 | 06 10 S | 098 54 W | 10.37 | | |
| 05 | 03 | 891027 | 19.45 | 45 | 05 | 22 | 45 | 01 | 03 | 04 | 0.31 | | |
| 05 | 04 | 891027 | 19.45 | 45 | 05 | 22 | 45 | 01 | 03 | 04 | 0.31 | | |
| 05 | 05 | 891027 | 19.45 | 05 | 22 | 45 | 01 | 03 | 04 | 0.31 | | | |
| 05 | 06 | 891027 | 19.45 | 05 | 22 | 45 | 01 | 03 | 04 | 0.31 | | | |
| 05 | 07 | 891027 | 19.45 | 22 | 45 | 05 | 02 | 096 | 06 10 S | 098 54 W | 6.48 | | |
| 05 | 08 | 891027 | 19.45 | 22 | 45 | 05 | 02 | 096 | 06 10 S | 098 54 W | 10.37 | | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position latitude | longitude | km in leg |
|--------|-----|--------|----------------|----------------|--------------|---------------|------------------|----------------------|-----------|--------------|
| | | | | left | right | rec. | vert. | | | |
| 01 | 09 | 891027 | 19.45 | 51 | 01 | 02 | 4 | 065 | 04 37 s | 095 25 w |
| 01 | 10 | 891027 | 19.45 | 51 | 01 | 02 | 3 | 065 | | 4.86 |
| 01 | 11 | 891027 | 19.45 | 01 | 74 | 51 | 3 | 065 | | 7.45 |
| 01 | 12 | 891027 | 19.45 | 01 | 74 | 51 | 02 | 4 | | 4.54 |
| 01 | 13 | 891027 | 19.45 | 01 | 74 | 51 | 02 | 4 | | 2.27 |
| 01 | 14 | 891027 | 19.45 | 01 | 74 | 51 | 02 | 4 | | 2.59 |
| 02 | 01 | 891027 | 19.45 | 51 | 01 | 74 | 01 | 4 | 063 | 2.92 |
| 02 | 02 | 891027 | 19.45 | 05 | 22 | 45 | 01 | 4 | 063 | 10.70 |
| 02 | 03 | 891027 | 19.45 | 05 | 22 | 45 | 01 | 4 | 063 | 5.83 |
| 02 | 04 | 891027 | 19.45 | 45 | 05 | 22 | 01 | 4 | 063 | 6.16 |
| 02 | 05 | 891027 | 19.45 | 45 | 05 | 22 | 01 | 4 | 063 | 0.65 |
| 03 | 01 | 891027 | 19.45 | 45 | 05 | 22 | 02 | 01 | 4 | 063 |
| 04 | 01 | 891027 | 19.45 | 05 | 22 | 45 | 02 | 12 | 4 | 065 |
| 04 | 02 | 891027 | 19.45 | 05 | 22 | 45 | 03 | 01 | 4 | 065 |
| 04 | 03 | 891027 | 19.45 | 01 | 74 | 51 | 03 | 01 | 4 | 065 |
| 04 | 04 | 891027 | 19.45 | 01 | 74 | 51 | 03 | 01 | 4 | 065 |
| 05 | 01 | 891027 | 19.45 | 51 | 01 | 74 | 04 | 01 | 4 | 065 |
| 05 | 02 | 891027 | 19.45 | 51 | 01 | 74 | 04 | 01 | 5 | 065 |
| 05 | 03 | 891027 | 19.45 | 51 | 01 | 74 | 05 | 01 | 5 | 065 |
| 05 | 04 | 891027 | 19.45 | 74 | 51 | 01 | 05 | 01 | 5 | 065 |
| 05 | 05 | 891027 | 19.45 | 74 | 51 | 01 | 05 | 01 | 5 | 065 |
| 05 | 06 | 891027 | 19.45 | 22 | 45 | 05 | 22 | 05 | 5 | 065 |
| 06 | 01 | 891027 | 19.45 | 45 | 05 | 22 | 45 | 06 | 02 | 0.65 |
| 06 | 02 | 891027 | 19.45 | 05 | 22 | 45 | 06 | 02 | 5 | 065 |
| 06 | 03 | 891027 | 19.45 | 22 | 45 | 05 | 22 | 06 | 02 | 0.65 |
| 06 | 04 | 891027 | 19.45 | 45 | 05 | 22 | 06 | 02 | 5 | 065 |
| 06 | 05 | 891027 | 19.45 | 05 | 22 | 45 | 06 | 02 | 5 | 065 |
| 06 | 06 | 891027 | 19.45 | 05 | 22 | 45 | 06 | 02 | 5 | 065 |
| 06 | 07 | 891027 | 19.45 | 05 | 22 | 45 | 06 | 02 | 4 | 065 |
| 06 | 08 | 891027 | 19.45 | 51 | 01 | 74 | 04 | 4 | 065 | 0.54 |
| 06 | 09 | 891027 | 19.45 | 74 | 51 | 01 | 74 | 04 | 4 | 065 |
| 07 | 01 | 891027 | 19.45 | 01 | 74 | 51 | 01 | 03 | 4 | 065 |
| 08 | 01 | 891027 | 19.45 | 22 | 45 | 05 | 01 | 03 | 4 | 062 |
| 01 | 02 | 891028 | 19.45 | 74 | 01 | 74 | 01 | 02 | 4 | 062 |
| 01 | 02 | 891028 | 19.45 | 51 | 01 | 74 | 01 | 02 | 4 | 064 |
| 02 | 01 | 891028 | 19.45 | 51 | 01 | 74 | 01 | 02 | 4 | 064 |
| 02 | 02 | 891028 | 19.45 | 51 | 01 | 74 | 01 | 02 | 4 | 064 |
| 02 | 03 | 891028 | 19.45 | 01 | 51 | 01 | 02 | 4 | 064 | 0.64 |
| 02 | 04 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 01 | 02 | 0.64 |
| 02 | 05 | 891028 | 19.45 | 45 | 05 | 22 | 01 | 02 | 4 | 064 |
| 02 | 06 | 891028 | 19.45 | 45 | 05 | 22 | 01 | 02 | 4 | 064 |
| 02 | 07 | 891028 | 19.45 | 01 | 51 | 01 | 74 | 01 | 02 | 4 |
| 02 | 08 | 891028 | 19.45 | 01 | 51 | 01 | 74 | 01 | 02 | 4 |
| 02 | 09 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 01 | 02 | 4 |
| 02 | 10 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 01 | 02 | 4 |
| 02 | 11 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 01 | 02 | 4 |
| 02 | 12 | 891028 | 19.45 | 45 | 05 | 22 | 02 | 01 | 01 | 4 |
| 02 | 13 | 891028 | 19.45 | 05 | 22 | 45 | 02 | 01 | 4 | 064 |
| 02 | 14 | 891028 | 19.45 | 51 | 01 | 74 | 01 | 01 | 4 | 064 |
| 02 | 15 | 891028 | 19.45 | 01 | 51 | 01 | 74 | 01 | 01 | 4 |
| 02 | 16 | 891028 | 19.45 | 74 | 01 | 51 | 01 | 03 | 01 | 4 |
| 03 | 01 | 891028 | 19.45 | 74 | 01 | 51 | 01 | 03 | 01 | 4 |
| 03 | 02 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 01 | 02 | 4 |
| 03 | 03 | 891028 | 19.45 | 45 | 05 | 22 | 01 | 02 | 4 | 064 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | rec. | sun position harz. vert. | course no. | beauf. | position (deg.) | latitude longitude | km in leg | |
|--------|-----|--------|----------------|------------------|----------------|------|--------------------------------|---------------|---------|--------------------|-----------------------|--------------|------|
| 03 | 04 | 891028 | 19.45 | 05 | 22 | 45 | 06 | 01 | 4 | 064 | 02 42 S | 091 42 W | 4.86 |
| 03 | 05 | 891028 | 19.45 | 05 | 22 | 45 | 05 | 4 | 064 | 02 40 S | 091 39 W | 1.62 | |
| 03 | 06 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 4 | 064 | 02 40 S | 091 39 W | 6.48 | |
| 03 | 07 | 891028 | 19.45 | 45 | 05 | 22 | 45 | 4 | 064 | 02 39 S | 091 35 W | 6.48 | |
| 03 | 08 | 891028 | 19.45 | 05 | 22 | 45 | 01 | 4 | 064 | 02 31 S | 091 23 W | 3.24 | |
| 03 | 09 | 891028 | 19.45 | 05 | 22 | 45 | 5 | 4 | 064 | 02 28 S | 091 20 W | 1.62 | |
| 03 | 10 | 891028 | 19.45 | 01 | 51 | 74 | 51 | 4 | 064 | 02 26 S | 091 16 W | 6.48 | |
| 03 | 11 | 891028 | 19.45 | 74 | 01 | 51 | 06 | 02 | 064 | 02 22 S | 091 07 W | 16.20 | |
| 03 | 12 | 891028 | 19.45 | 74 | 01 | 51 | 06 | 02 | 064 | 01 48 S | 089 58 W | 1.94 | |
| 04 | 01 | 891028 | 19.45 | 51 | 74 | 01 | 4 | 064 | 02 24 S | 091 12 W | 8.75 | | |
| 04 | 02 | 891028 | 19.45 | 22 | 45 | 05 | 22 | 4 | 064 | 02 22 S | 091 10 W | 4.21 | |
| 05 | 01 | 891028 | 19.45 | 45 | 05 | 22 | 06 | 03 | 064 | 01 46 S | 089 54 W | 5.51 | |
| 05 | 02 | 891028 | 19.45 | 45 | 05 | 22 | 06 | 03 | 064 | 01 46 S | 089 54 W | 1.30 | |
| 05 | 03 | 891028 | 19.45 | 05 | 22 | 45 | 06 | 03 | 064 | 01 46 S | 089 54 W | 6.16 | |
| 05 | 04 | 891028 | 19.45 | 51 | 74 | 01 | 03 | 4 | 066 | 01 46 S | 089 54 W | 0.97 | |
| 05 | 05 | 891028 | 19.45 | 22 | 45 | 05 | 06 | 03 | 064 | 01 44 S | 089 51 W | 1.30 | |
| 05 | 06 | 891029 | 19.45 | 74 | 01 | 51 | 05 | 01 | 02 | 066 | 01 42 S | 089 47 W | 5.19 |
| 05 | 07 | 891029 | 19.45 | 45 | 22 | 05 | 01 | 02 | 066 | 01 42 S | 089 47 W | 1.30 | |
| 05 | 08 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 02 | 066 | 01 38 S | 089 44 W | 2.59 | |
| 05 | 09 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 03 | 026 | 01 38 S | 089 44 W | 7.13 | |
| 05 | 10 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 03 | 026 | 01 38 S | 089 44 W | 3.24 | |
| 05 | 11 | 891029 | 19.45 | 74 | 01 | 51 | 01 | 01 | 026 | 01 31 S | 089 47 W | 6.16 | |
| 02 | 01 | 891029 | 19.45 | 51 | 74 | 01 | 01 | 01 | 026 | 01 31 S | 089 47 W | 13.61 | |
| 02 | 02 | 891029 | 19.45 | 22 | 05 | 45 | 02 | 01 | 026 | 01 28 S | 089 41 W | 1.62 | |
| 02 | 03 | 891029 | 19.45 | 22 | 05 | 45 | 22 | 01 | 026 | 01 28 S | 089 39 W | 6.16 | |
| 03 | 01 | 891029 | 19.45 | 05 | 45 | 22 | 01 | 02 | 066 | 01 24 S | 089 35 W | 6.81 | |
| 03 | 02 | 891029 | 19.45 | 05 | 45 | 22 | 05 | 3 | 066 | 01 22 S | 089 31 W | 4.86 | |
| 03 | 03 | 891029 | 19.45 | 45 | 22 | 05 | 02 | 01 | 026 | 01 22 S | 089 26 W | 8.75 | |
| 03 | 04 | 891029 | 19.45 | 45 | 22 | 05 | 03 | 01 | 026 | 01 22 S | 089 24 W | 14.58 | |
| 03 | 05 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 16 S | 089 12 W | 1.30 | |
| 03 | 06 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 16 S | 089 12 W | 7.13 | |
| 03 | 07 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 14 S | 089 02 W | 1.94 | |
| 03 | 08 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 10 S | 088 54 W | 4.86 | |
| 03 | 09 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 09 S | 088 49 W | 10.70 | |
| 03 | 10 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 01 08 S | 088 44 W | 7.78 | |
| 03 | 11 | 891029 | 19.45 | 01 | 51 | 74 | 01 | 05 | 026 | 00 09 S | 088 02 W | 0.97 | |
| 01 | 01 | 891030 | 19.45 | 01 | 74 | 51 | 02 | 03 | 028 | 00 05 S | 088 00 W | 11.34 | |
| 02 | 01 | 891030 | 19.45 | 01 | 74 | 51 | 02 | 03 | 028 | 00 05 S | 088 00 W | 4.54 | |
| 02 | 02 | 891030 | 19.45 | 72 | 01 | 74 | 03 | 02 | 028 | 00 01 N | 087 58 W | 2.92 | |
| 03 | 01 | 891030 | 19.45 | 72 | 01 | 74 | 03 | 02 | 028 | 00 01 N | 087 58 W | 7.78 | |
| 03 | 02 | 891030 | 19.45 | 74 | 72 | 01 | 03 | 02 | 010 | 00 12 N | 087 57 W | 15.23 | |
| 03 | 03 | 891030 | 19.45 | 45 | 22 | 05 | 03 | 02 | 010 | 00 12 N | 087 57 W | 5.83 | |
| 03 | 04 | 891030 | 19.45 | 45 | 22 | 05 | 03 | 02 | 010 | 00 12 N | 087 57 W | 6.48 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | sun position horz. vert. | beauf. no. | course (deg.) | position latitude | km in leg | |
|--------|-----|--------|----------------|------------------|----------------|--------------------------------|---------------|------------------|----------------------|--------------|-----|
| 03 | 05 | 891030 | 19.45 | 05 | 22 | 45 | 03 | 02 | 5 | 010 | |
| 03 | 06 | 891030 | 19.45 | 22 | 45 | 05 | 03 | 02 | 5 | 010 | |
| 03 | 07 | 891030 | 19.45 | 22 | 45 | 05 | 03 | 01 | 5 | 015 | |
| 03 | 08 | 891030 | 19.45 | 45 | 05 | 22 | 03 | 01 | 5 | 015 | |
| 03 | 09 | 891030 | 19.45 | 05 | 22 | 45 | 03 | 01 | 5 | 015 | |
| 03 | 10 | 891030 | 19.45 | 05 | 22 | 01 | 74 | 03 | 01 | 5 | 015 |
| 03 | 11 | 891030 | 19.45 | 74 | 01 | 72 | 01 | 04 | 01 | 5 | 015 |
| 03 | 12 | 891030 | 19.45 | 01 | 74 | 72 | 05 | 01 | 5 | 015 | |
| 03 | 13 | 891030 | 19.45 | 22 | 45 | 05 | 12 | 12 | 5 | 015 | |
| 03 | 14 | 891030 | 19.45 | 45 | 05 | 22 | 12 | 12 | 5 | 015 | |
| 03 | 15 | 891030 | 19.45 | 05 | 22 | 45 | 07 | 01 | 5 | 015 | |
| 03 | 16 | 891030 | 19.45 | 22 | 45 | 05 | 07 | 01 | 5 | 015 | |
| 03 | 17 | 891030 | 19.45 | 45 | 05 | 22 | 07 | 01 | 5 | 015 | |
| 03 | 18 | 891030 | 19.45 | 05 | 22 | 45 | 07 | 01 | 5 | 015 | |
| 03 | 19 | 891030 | 19.45 | 74 | 05 | 22 | 01 | 5 | 015 | 01 | |
| 04 | 01 | 891030 | 19.45 | 01 | 74 | 51 | 01 | 74 | 01 | 015 | |
| 04 | 02 | 891030 | 19.45 | 51 | 01 | 74 | 05 | 01 | 5 | 015 | |
| 04 | 03 | 891030 | 19.45 | 22 | 45 | 05 | 22 | 05 | 01 | 015 | |
| 04 | 04 | 891030 | 19.45 | 45 | 05 | 22 | 45 | 05 | 01 | 015 | |
| 04 | 05 | 891030 | 19.45 | 05 | 22 | 45 | 05 | 05 | 01 | 015 | |
| 04 | 06 | 891030 | 19.45 | 22 | 45 | 05 | 05 | 05 | 01 | 015 | |
| 01 | 01 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 04 | 010 | 03 | |
| 02 | 01 | 891031 | 19.45 | 45 | 05 | 22 | 05 | 04 | 010 | 03 | |
| 02 | 02 | 891031 | 19.45 | 05 | 22 | 45 | 05 | 04 | 010 | 03 | |
| 02 | 03 | 891031 | 19.45 | 01 | 74 | 51 | 01 | 74 | 04 | 010 | |
| 02 | 04 | 891031 | 19.45 | 01 | 74 | 51 | 01 | 74 | 04 | 010 | |
| 02 | 05 | 891031 | 19.45 | 51 | 01 | 74 | 01 | 74 | 04 | 010 | |
| 02 | 06 | 891031 | 19.45 | 01 | 74 | 51 | 01 | 74 | 05 | 010 | |
| 03 | 01 | 891031 | 19.45 | 74 | 51 | 01 | 01 | 01 | 05 | 010 | |
| 03 | 02 | 891031 | 19.45 | 74 | 51 | 01 | 01 | 05 | 01 | 015 | |
| 04 | 01 | 891031 | 19.45 | 74 | 51 | 01 | 01 | 05 | 01 | 015 | |
| 04 | 02 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 01 | 05 | 015 | |
| 04 | 03 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 01 | 05 | 015 | |
| 04 | 04 | 891031 | 19.45 | 45 | 05 | 22 | 45 | 05 | 01 | 015 | |
| 04 | 05 | 891031 | 19.45 | 05 | 22 | 45 | 05 | 05 | 01 | 015 | |
| 04 | 06 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 05 | 01 | 015 | |
| 04 | 07 | 891031 | 19.45 | 45 | 05 | 22 | 45 | 05 | 01 | 015 | |
| 04 | 08 | 891031 | 19.45 | 05 | 22 | 45 | 05 | 05 | 01 | 015 | |
| 04 | 09 | 891031 | 19.45 | 51 | 01 | 74 | 01 | 74 | 05 | 010 | |
| 04 | 01 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 01 | 05 | 015 | |
| 05 | 02 | 891031 | 19.45 | 22 | 45 | 05 | 05 | 05 | 020 | 04 | |
| 05 | 03 | 891031 | 19.45 | 45 | 05 | 22 | 45 | 05 | 020 | 04 | |
| 06 | 01 | 891031 | 19.45 | 72 | 51 | 74 | 51 | 74 | 020 | 04 | |
| 06 | 02 | 891031 | 19.45 | 72 | 51 | 74 | 51 | 74 | 020 | 04 | |
| 06 | 03 | 891031 | 19.45 | 74 | 01 | 51 | 01 | 51 | 020 | 04 | |
| 06 | 04 | 891031 | 19.45 | 74 | 01 | 51 | 01 | 51 | 020 | 04 | |
| 06 | 05 | 891031 | 19.45 | 74 | 01 | 51 | 01 | 51 | 020 | 04 | |
| 01 | 01 | 891101 | 19.45 | 74 | 01 | 51 | 07 | 02 | 4 | 028 | |
| 01 | 02 | 891101 | 19.45 | 51 | 01 | 74 | 01 | 74 | 02 | 028 | |
| 01 | 03 | 891101 | 19.45 | 51 | 01 | 74 | 01 | 74 | 02 | 028 | |
| 01 | 04 | 891101 | 19.45 | 01 | 51 | 74 | 51 | 74 | 02 | 028 | |
| 01 | 05 | 891101 | 19.45 | 01 | 51 | 74 | 51 | 74 | 02 | 028 | |
| 01 | 06 | 891101 | 19.45 | 01 | 51 | 74 | 51 | 74 | 02 | 028 | |
| 01 | 07 | 891101 | 19.45 | 22 | 45 | 05 | 05 | 05 | 028 | 028 | |
| 01 | 08 | 891101 | 19.45 | 45 | 05 | 22 | 45 | 05 | 05 | 028 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. course (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------------------------|----------------------------|-----------------------------------|--------------|
| 01 | 09 | 891101 | 19.45 | 05 | 22 | 45 | 05 | 5 028 |
| 01 | 10 | 891101 | 19.45 | 22 | 45 | 05 | 5 028 | 6.48 |
| 01 | 01 | 891102 | 19.45 | 22 | 45 | 05 | 5 020 | 0.32 |
| 01 | 02 | 891102 | 19.45 | 45 | 05 | 22 | 5 020 | 6.48 |
| 01 | 03 | 891102 | 19.45 | 45 | 05 | 22 | 4 020 | 3.24 |
| 01 | 04 | 891102 | 19.45 | 05 | 22 | 45 | 4 020 | 4.54 |
| 01 | 05 | 891102 | 19.45 | 05 | 22 | 45 | 4 028 | 1.62 |
| 01 | 06 | 891102 | 19.45 | 22 | 45 | 05 | 4 028 | 4.86 |
| 01 | 07 | 891102 | 19.45 | 45 | 05 | 22 | 03 028 | 5.19 |
| 01 | 08 | 891102 | 19.45 | 05 | 22 | 45 | 04 028 | 6.81 |
| 01 | 09 | 891102 | 19.45 | 05 | 22 | 45 | 03 028 | 4.54 |
| 01 | 10 | 891102 | 19.45 | 22 | 45 | 05 | 04 028 | 1.62 |
| 02 | 01 | 891102 | 19.45 | 51 | 01 | 74 | 4 028 | 2.59 |
| 03 | 01 | 891102 | 19.45 | 45 | 05 | 22 | 04 028 | 8.75 |
| 03 | 02 | 891102 | 19.45 | 45 | 05 | 22 | 04 028 | 0.65 |
| 03 | 03 | 891102 | 19.45 | 05 | 22 | 45 | 03 024 | 5.51 |
| 03 | 04 | 891102 | 19.45 | 05 | 22 | 45 | 03 015 | 6.81 |
| 03 | 05 | 891102 | 19.45 | 74 | 51 | 01 | 04 015 | 9.07 |
| 03 | 06 | 891102 | 19.45 | 74 | 51 | 01 | 07 02 | 7.13 |
| 03 | 07 | 891102 | 19.45 | 74 | 51 | 01 | 07 015 | 4.86 |
| 04 | 01 | 891102 | 19.45 | 01 | 74 | 51 | 04 015 | 0.97 |
| 05 | 01 | 891102 | 19.45 | 45 | 05 | 22 | 04 015 | 2.27 |
| 05 | 02 | 891102 | 19.45 | 05 | 22 | 45 | 03 015 | 6.48 |
| 05 | 03 | 891102 | 19.45 | 05 | 22 | 45 | 03 015 | 2.59 |
| 05 | 04 | 891102 | 19.45 | 22 | 45 | 05 | 08 02 | 3.57 |
| 05 | 05 | 891102 | 19.45 | 45 | 05 | 22 | 08 02 | 6.48 |
| 05 | 06 | 891102 | 19.45 | 45 | 05 | 22 | 08 022 | 5.83 |
| 05 | 07 | 891102 | 19.45 | 45 | 05 | 22 | 07 02 | 0.97 |
| 05 | 08 | 891102 | 19.45 | 05 | 22 | 45 | 07 02 | 6.16 |
| 05 | 09 | 891102 | 19.45 | 01 | 74 | 51 | 07 02 | 4.86 |
| 05 | 10 | 891102 | 19.45 | 01 | 74 | 51 | 07 02 | 2.92 |
| 06 | 01 | 891102 | 19.45 | 51 | 01 | 74 | 07 02 | 4.21 |
| 06 | 02 | 891102 | 19.45 | 45 | 05 | 22 | 03 028 | 9.72 |
| 06 | 03 | 891102 | 19.45 | 45 | 05 | 22 | 03 030 | 6.16 |
| 06 | 04 | 891102 | 19.45 | 01 | 74 | 51 | 07 02 | 4.54 |
| 06 | 05 | 891102 | 19.45 | 01 | 74 | 51 | 07 02 | 6.48 |
| 06 | 06 | 891102 | 19.45 | 51 | 01 | 74 | 07 02 | 6.81 |
| 06 | 07 | 891102 | 19.45 | 45 | 05 | 22 | 03 028 | 12.96 |
| 06 | 08 | 891102 | 19.45 | 45 | 05 | 22 | 03 028 | 6.48 |
| 06 | 09 | 891102 | 19.45 | 05 | 22 | 45 | 07 02 | 6.48 |
| 06 | 10 | 891102 | 19.45 | 45 | 05 | 22 | 05 028 | 9.40 |
| 06 | 11 | 891102 | 19.45 | 45 | 05 | 22 | 05 028 | 12.96 |
| 06 | 12 | 891102 | 19.45 | 45 | 05 | 22 | 05 028 | 7.13 |
| 06 | 13 | 891102 | 19.45 | 05 | 22 | 45 | 07 02 | 5.83 |
| 06 | 14 | 891102 | 19.45 | 45 | 05 | 22 | 05 028 | 6.48 |
| 07 | 01 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 1.62 |
| 07 | 02 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.23 |
| 07 | 03 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 1.62 |
| 07 | 04 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 5.09 |
| 07 | 05 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 9.80 |
| 07 | 06 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 8.80 |
| 07 | 07 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 2.64 |
| 07 | 08 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 09 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 10 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 11 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 12 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 13 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 14 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 15 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 16 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 17 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 18 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 19 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 20 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 21 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 22 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 23 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 24 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 25 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 26 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 27 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 28 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 29 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 30 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 31 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 32 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 33 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 34 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 35 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 36 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 37 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 38 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 39 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 40 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 41 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 42 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 43 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 44 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 45 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 46 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 47 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 48 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 49 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 50 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 51 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 52 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 53 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 54 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 55 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 56 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 57 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 58 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 59 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 60 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 61 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 62 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 63 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 64 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 65 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 66 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 67 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 68 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 69 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 70 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 71 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 72 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 73 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 74 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 75 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 76 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 77 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 78 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 79 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 80 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 81 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 82 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 83 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 84 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 85 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 86 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 87 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 88 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 89 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 90 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 91 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 92 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 93 | 891109 | 19.45 | 45 | 05 | 22 | 05 028 | 0.65 |
| 07 | 94 | 891109 | 19.45 | 45 | 05 | 22 | 05 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | rec. | sun position horiz. vert. | beauf. no. | course (deg.) | position latitude | position longitude | km in leg | |
|--------|-----|--------|----------------|------------------|----------------|------|---------------------------------|---------------|------------------|----------------------|-----------------------|--------------|-------|
| 03 | 03 | 891109 | 13.89 | 05 | 45 | 22 | 10 | 01 | 264 | 09 13 n | 087 29 w | 4.17 | |
| 03 | 04 | 891109 | 13.89 | 45 | 22 | 05 | 10 | 01 | 264 | 09 11 n | 087 37 w | 4.63 | |
| 03 | 05 | 891109 | 13.89 | 22 | 05 | 45 | 11 | 02 | 264 | 09 12 n | 087 37 w | 4.86 | |
| 03 | 06 | 891109 | 13.89 | 05 | 45 | 22 | 11 | 02 | 264 | 09 12 n | 087 37 w | 0.23 | |
| 04 | 01 | 891109 | 13.89 | 05 | 45 | 22 | 05 | 11 | 264 | 09 11 n | 087 39 w | 2.08 | |
| 05 | 01 | 891109 | 13.89 | 45 | 22 | 05 | 11 | 02 | 264 | 09 11 n | 087 39 w | 4.63 | |
| 05 | 02 | 891109 | 13.89 | 22 | 05 | 45 | 11 | 02 | 264 | 09 11 n | 087 43 w | 4.17 | |
| 05 | 03 | 891109 | 13.89 | 01 | 51 | 51 | 11 | 02 | 264 | 09 11 n | 087 43 w | 1.16 | |
| 05 | 04 | 891109 | 13.89 | 74 | 01 | 99 | 11 | 03 | 264 | 09 09 n | 087 44 w | 1.39 | |
| 06 | 01 | 891109 | 13.89 | 74 | 01 | 51 | 11 | 03 | 264 | 09 09 n | 087 44 w | 0.93 | |
| 06 | 02 | 891109 | 13.89 | 51 | 74 | 01 | 11 | 03 | 264 | 09 09 n | 087 46 w | 2.08 | |
| 07 | 01 | 891109 | 13.89 | 01 | 51 | 74 | 11 | 03 | 264 | 08 54 n | 089 10 w | 5.09 | |
| 01 | 01 | 891110 | 18.52 | 01 | 51 | 74 | 01 | 2 | 218 | 08 54 n | 089 10 w | 8.95 | |
| 01 | 02 | 891110 | 18.52 | 74 | 01 | 51 | 11 | 02 | 218 | 08 54 n | 089 10 w | 3.70 | |
| 01 | 03 | 891110 | 18.52 | 74 | 01 | 51 | 11 | 03 | 218 | 08 54 n | 089 10 w | 8.64 | |
| 01 | 04 | 891110 | 18.52 | 51 | 74 | 01 | 09 | 02 | 218 | 08 41 n | 089 20 w | 12.35 | |
| 01 | 05 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 02 | 218 | 08 41 n | 089 20 w | 4.94 | |
| 01 | 06 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 02 | 218 | 08 41 n | 089 20 w | 1.54 | |
| 01 | 07 | 891110 | 18.52 | 45 | 05 | 22 | 45 | 05 | 218 | 08 41 n | 089 20 w | 6.17 | |
| 01 | 08 | 891110 | 18.52 | 05 | 22 | 45 | 05 | 05 | 218 | 08 34 n | 089 26 w | 5.86 | |
| 01 | 09 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 05 | 218 | 07 43 n | 089 58 w | 2.16 | |
| 02 | 01 | 891110 | 18.52 | 01 | 74 | 01 | 51 | 01 | 218 | 07 42 n | 090 01 w | 7.41 | |
| 02 | 02 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 05 | 218 | 07 42 n | 090 01 w | 6.48 | |
| 02 | 03 | 891110 | 18.52 | 45 | 05 | 22 | 05 | 05 | 218 | 07 42 n | 090 01 w | 0.93 | |
| 02 | 04 | 891110 | 18.52 | 45 | 05 | 22 | 05 | 05 | 220 | 07 33 n | 090 08 w | 5.56 | |
| 02 | 05 | 891110 | 18.52 | 05 | 22 | 45 | 05 | 01 | 03 | 06 40 n | 090 44 w | 2.16 | |
| 02 | 06 | 891110 | 18.52 | 05 | 22 | 45 | 05 | 01 | 03 | 06 40 n | 090 44 w | 3.40 | |
| 02 | 07 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 01 | 220 | 07 33 n | 090 08 w | 1.85 | |
| 02 | 08 | 891110 | 18.52 | 22 | 45 | 05 | 05 | 01 | 220 | 07 33 n | 090 08 w | 5.56 | |
| 01 | 01 | 891111 | 19.45 | 22 | 05 | 45 | 05 | 05 | 223 | 06 40 n | 090 44 w | 3.24 | |
| 02 | 01 | 891111 | 18.52 | 51 | 01 | 74 | 01 | 09 | 02 | 223 | 06 16 n | 091 02 w | 9.26 |
| 03 | 01 | 891111 | 14.82 | 74 | 51 | 01 | 01 | 01 | 223 | 05 56 n | 091 17 w | 7.16 | |
| 04 | 01 | 891111 | 13.89 | 05 | 45 | 22 | 05 | 01 | 223 | 05 45 n | 091 26 w | 4.63 | |
| 04 | 02 | 891111 | 13.89 | 45 | 22 | 05 | 05 | 01 | 223 | 05 42 n | 091 28 w | 4.86 | |
| 04 | 03 | 891111 | 13.89 | 22 | 05 | 45 | 05 | 05 | 223 | 05 42 n | 091 28 w | 5.09 | |
| 04 | 04 | 891111 | 13.89 | 05 | 45 | 22 | 05 | 05 | 223 | 05 42 n | 091 28 w | 1.39 | |
| 04 | 05 | 891111 | 13.89 | 05 | 45 | 22 | 05 | 05 | 218 | 05 36 n | 091 34 w | 2.78 | |
| 04 | 06 | 891111 | 13.89 | 05 | 45 | 22 | 05 | 06 | 218 | 05 32 n | 091 39 w | 0.23 | |
| 05 | 01 | 891111 | 13.89 | 01 | 74 | 51 | 01 | 04 | 218 | 05 25 n | 092 24 w | 3.09 | |
| 01 | 01 | 891112 | 18.52 | 74 | 51 | 01 | 01 | 04 | 237 | 04 20 n | 092 30 w | 6.17 | |
| 01 | 02 | 891112 | 18.52 | 01 | 74 | 51 | 01 | 04 | 208 | 04 02 n | 092 39 w | 11.42 | |
| 02 | 02 | 891112 | 18.52 | 01 | 74 | 51 | 01 | 04 | 208 | 03 59 n | 092 41 w | 9.26 | |
| 03 | 01 | 891112 | 18.52 | 22 | 45 | 05 | 05 | 09 | 02 | 03 56 n | 092 43 w | 12.66 | |
| 04 | 01 | 891112 | 18.52 | 45 | 05 | 22 | 05 | 01 | 218 | 03 40 n | 092 55 w | 12.04 | |
| 04 | 02 | 891112 | 18.52 | 01 | 74 | 51 | 01 | 10 | 01 | 218 | 03 40 n | 092 55 w | 12.35 |
| 04 | 03 | 891112 | 18.52 | 74 | 51 | 01 | 11 | 01 | 218 | 03 40 n | 092 55 w | 6.17 | |
| 04 | 04 | 891112 | 18.52 | 05 | 22 | 45 | 05 | 12 | 01 | 218 | 03 40 n | 092 55 w | 6.48 |
| 04 | 05 | 891112 | 18.52 | 22 | 45 | 05 | 05 | 12 | 01 | 218 | 03 40 n | 092 55 w | 6.17 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes right | sun position horz. vert. | beauf. no. | course (deg.) | position in leg | | | | |
|--------|-----|--------|----------------|------------------|----------------|--------------------------------|---------------|------------------|--------------------|-----|-----|-----|-----|
| | | | | | | | | | 01 | 02 | 03 | 04 | |
| 04 | 08 | 891112 | 18.52 | 06 | 22 | 45 | 12 | 01 | 5 | 215 | 03 | 32 | |
| 04 | 09 | 891112 | 18.52 | 22 | 45 | 05 | 12 | 01 | 5 | 215 | n | 093 | |
| 04 | 10 | 891112 | 18.52 | 45 | 05 | 22 | | | 5 | 215 | n | 093 | |
| 04 | 11 | 891112 | 18.52 | 51 | 01 | 74 | | | 4 | 215 | n | 093 | |
| 04 | 12 | 891112 | 18.52 | 74 | 51 | 01 | 01 | 01 | 4 | 215 | n | 093 | |
| 04 | 13 | 891112 | 18.52 | 74 | 51 | 01 | 01 | 01 | 3 | 215 | n | 093 | |
| 04 | 14 | 891112 | 18.52 | 01 | 74 | 51 | | | 3 | 215 | n | 093 | |
| 04 | 15 | 891112 | 18.52 | 01 | 74 | 51 | 01 | 02 | 3 | 215 | n | 093 | |
| 04 | 16 | 891112 | 18.52 | 01 | 74 | 51 | 01 | 02 | 3 | 215 | n | 093 | |
| 04 | 17 | 891112 | 18.52 | 45 | 22 | 05 | 01 | 02 | 3 | 215 | n | 093 | |
| 04 | 18 | 891112 | 18.52 | 22 | 05 | 45 | 01 | 02 | 3 | 215 | n | 093 | |
| 04 | 19 | 891112 | 18.52 | 05 | 45 | 22 | 01 | 03 | 3 | 215 | n | 093 | |
| 05 | 01 | 891113 | 18.52 | 74 | 51 | 01 | 09 | 03 | 2 | 215 | n | 093 | |
| 01 | 01 | 891113 | 18.52 | 22 | 45 | 05 | 09 | 03 | 3 | 205 | n | 093 | |
| 01 | 02 | 891113 | 18.52 | 45 | 05 | 22 | 09 | 03 | 3 | 205 | n | 093 | |
| 01 | 03 | 891113 | 18.52 | 05 | 22 | 45 | 09 | 03 | 3 | 205 | n | 093 | |
| 01 | 04 | 891113 | 18.52 | 22 | 45 | 05 | 09 | 03 | 3 | 205 | n | 093 | |
| 02 | 01 | 891113 | 18.52 | 45 | 05 | 22 | 09 | 02 | 3 | 205 | n | 093 | |
| 03 | 01 | 891113 | 19.45 | 01 | 74 | 51 | 08 | 02 | 3 | 217 | n | 094 | |
| 04 | 01 | 891113 | 19.45 | 51 | 01 | 74 | 08 | 02 | 3 | 217 | n | 094 | |
| 04 | 02 | 891113 | 19.45 | 51 | 01 | 74 | 01 | 09 | 01 | 217 | n | 094 | |
| 04 | 03 | 891113 | 19.45 | 74 | 51 | 01 | 09 | 01 | 4 | 217 | n | 094 | |
| 04 | 04 | 891113 | 19.45 | 05 | 22 | 45 | 05 | 10 | 01 | 4 | 217 | n | 094 |
| 04 | 05 | 891113 | 19.45 | 22 | 45 | 05 | 10 | 01 | 4 | 176 | n | 094 | |
| 04 | 06 | 891113 | 19.45 | 45 | 05 | 22 | 11 | 01 | 4 | 176 | n | 094 | |
| 04 | 07 | 891113 | 19.45 | 05 | 22 | 45 | 11 | 01 | 4 | 176 | n | 094 | |
| 04 | 08 | 891113 | 19.45 | 22 | 45 | 05 | 11 | 01 | 4 | 176 | n | 094 | |
| 04 | 09 | 891113 | 19.45 | 45 | 05 | 22 | 11 | 01 | 4 | 176 | n | 094 | |
| 04 | 10 | 891113 | 19.45 | 05 | 22 | 45 | 05 | 22 | 01 | 4 | 176 | n | 094 |
| 04 | 11 | 891113 | 19.45 | 51 | 01 | 74 | 12 | 01 | 4 | 176 | n | 094 | |
| 04 | 12 | 891113 | 19.45 | 51 | 01 | 74 | 01 | 01 | 4 | 168 | n | 094 | |
| 04 | 13 | 891113 | 19.45 | 74 | 51 | 01 | 01 | 01 | 4 | 168 | n | 094 | |
| 04 | 14 | 891113 | 19.45 | 01 | 74 | 51 | 01 | 01 | 4 | 168 | n | 094 | |
| 04 | 15 | 891113 | 19.45 | 05 | 22 | 45 | 02 | 01 | 4 | 168 | n | 094 | |
| 04 | 16 | 891113 | 19.45 | 22 | 45 | 05 | 05 | 02 | 4 | 168 | n | 094 | |
| 04 | 17 | 891113 | 19.45 | 45 | 05 | 22 | 02 | 02 | 4 | 168 | n | 094 | |
| 04 | 18 | 891113 | 19.45 | 05 | 22 | 45 | 05 | 22 | 02 | 5 | 168 | n | 094 |
| 04 | 19 | 891113 | 19.45 | 05 | 22 | 45 | 02 | 02 | 5 | 168 | n | 094 | |
| 04 | 20 | 891113 | 19.45 | 22 | 45 | 05 | 02 | 02 | 5 | 168 | n | 094 | |
| 04 | 21 | 891113 | 19.45 | 45 | 05 | 22 | 03 | 02 | 5 | 168 | n | 094 | |
| 05 | 01 | 891113 | 19.45 | 74 | 01 | 51 | 01 | 03 | 02 | 4 | 165 | n | 094 |
| 05 | 02 | 891113 | 19.45 | 01 | 74 | 51 | 03 | 02 | 4 | 165 | n | 094 | |
| 06 | 01 | 891113 | 19.45 | 51 | 01 | 74 | 03 | 03 | 4 | 165 | n | 094 | |
| 06 | 02 | 891113 | 19.45 | 05 | 22 | 45 | 03 | 03 | 4 | 165 | n | 094 | |
| 06 | 03 | 891113 | 19.45 | 22 | 45 | 05 | 03 | 03 | 4 | 165 | n | 094 | |
| 01 | 01 | 891114 | 19.45 | 74 | 01 | 51 | 10 | 03 | 3 | 165 | n | 094 | |
| 02 | 01 | 891114 | 19.45 | 51 | 01 | 74 | 01 | 10 | 03 | 170 | n | 094 | |
| 03 | 01 | 891114 | 19.45 | 51 | 01 | 74 | 01 | 10 | 03 | 170 | n | 094 | |
| 03 | 02 | 891114 | 19.45 | 01 | 74 | 51 | 01 | 10 | 02 | 4 | 170 | n | 094 |
| 04 | 01 | 891114 | 19.45 | 22 | 45 | 05 | 10 | 02 | 4 | 170 | n | 094 | |
| 04 | 02 | 891114 | 19.45 | 45 | 05 | 22 | 10 | 02 | 4 | 160 | n | 094 | |
| 05 | 01 | 891114 | 19.45 | 05 | 22 | 45 | 10 | 02 | 4 | 160 | n | 094 | |
| 05 | 02 | 891114 | 19.45 | 22 | 45 | 05 | 10 | 02 | 4 | 160 | n | 094 | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horiz. vent. | beauf. no. | course (deg.) | position latitude longitude in leg km |
|--------|-----|--------|--------------------|----------------|------------------------------|---------------|------------------|--|
| | | | left right rec. | | horz. | | | |
| 05 | 03 | 891114 | 19.45 | 05 | 22 | 11 | 01 | 160 |
| 06 | 01 | 891114 | 19.45 | 05 | 22 | 10 | 01 | 165 |
| 06 | 02 | 891114 | 19.45 | 01 | 74 | 10 | 01 | 165 |
| 07 | 01 | 891114 | 19.45 | 01 | 51 | 11 | 01 | 170 |
| 07 | 02 | 891114 | 19.45 | 01 | 51 | 74 | 03 | 170 |
| 07 | 03 | 891114 | 19.45 | 01 | 51 | 51 | 01 | 170 |
| 07 | 04 | 891114 | 19.45 | 01 | 51 | 11 | 01 | 170 |
| 08 | 01 | 891114 | 19.45 | 05 | 22 | 45 | 01 | 170 |
| 08 | 02 | 891114 | 19.45 | 05 | 22 | 45 | 01 | 170 |
| 08 | 03 | 891114 | 19.45 | 05 | 22 | 01 | 01 | 170 |
| 08 | 04 | 891114 | 19.45 | 05 | 22 | 45 | 01 | 170 |
| 08 | 05 | 891114 | 19.45 | 05 | 22 | 45 | 03 | 170 |
| 08 | 06 | 891114 | 19.45 | 01 | 51 | 74 | 03 | 170 |
| 09 | 01 | 891114 | 19.45 | 01 | 51 | 01 | 01 | 170 |
| 09 | 02 | 891114 | 19.45 | 01 | 51 | 03 | 02 | 170 |
| 09 | 03 | 891114 | 19.45 | 01 | 74 | 01 | 03 | 170 |
| 10 | 01 | 891114 | 19.45 | 05 | 22 | 22 | 03 | 170 |
| 10 | 02 | 891114 | 19.45 | 05 | 22 | 45 | 03 | 170 |
| 11 | 01 | 891114 | 19.45 | 22 | 45 | 03 | 03 | 170 |
| 11 | 02 | 891114 | 19.45 | 45 | 05 | 22 | 03 | 170 |
| 11 | 03 | 891114 | 19.45 | 45 | 01 | 51 | 03 | 170 |
| 01 | 01 | 891115 | 19.45 | 45 | 22 | 05 | 02 | 170 |
| 01 | 02 | 891115 | 19.45 | 22 | 45 | 09 | 03 | 170 |
| 01 | 03 | 891115 | 19.45 | 45 | 22 | 09 | 03 | 170 |
| 01 | 04 | 891115 | 19.45 | 05 | 45 | 22 | 03 | 170 |
| 02 | 01 | 891115 | 19.45 | 05 | 45 | 22 | 09 | 188 |
| 02 | 02 | 891115 | 19.45 | 45 | 22 | 05 | 09 | 188 |
| 02 | 03 | 891115 | 19.45 | 22 | 05 | 45 | 03 | 188 |
| 02 | 04 | 891115 | 19.45 | 05 | 45 | 22 | 04 | 188 |
| 02 | 05 | 891115 | 19.45 | 01 | 51 | 74 | 09 | 188 |
| 02 | 06 | 891115 | 19.45 | 74 | 01 | 51 | 02 | 188 |
| 02 | 07 | 891115 | 19.45 | 51 | 74 | 01 | 02 | 188 |
| 02 | 08 | 891115 | 19.45 | 45 | 22 | 05 | 04 | 188 |
| 02 | 09 | 891115 | 19.45 | 45 | 22 | 05 | 04 | 188 |
| 02 | 10 | 891115 | 19.45 | 22 | 45 | 05 | 03 | 188 |
| 02 | 11 | 891115 | 19.45 | 05 | 45 | 22 | 04 | 188 |
| 02 | 12 | 891115 | 19.45 | 45 | 22 | 05 | 02 | 188 |
| 02 | 13 | 891115 | 19.45 | 22 | 05 | 45 | 04 | 188 |
| 02 | 14 | 891115 | 19.45 | 05 | 45 | 22 | 04 | 180 |
| 02 | 15 | 891115 | 19.45 | 74 | 01 | 51 | 05 | 180 |
| 02 | 16 | 891115 | 19.45 | 74 | 01 | 51 | 04 | 286 |
| 02 | 17 | 891115 | 19.45 | 74 | 01 | 51 | 09 | 12 |
| 02 | 18 | 891115 | 19.45 | 51 | 74 | 01 | 09 | 12 |
| 03 | 01 | 891115 | 19.45 | 01 | 51 | 74 | 10 | 01 |
| 03 | 02 | 891115 | 19.45 | 22 | 05 | 11 | 01 | 4 |
| 03 | 03 | 891115 | 19.45 | 22 | 05 | 45 | 11 | 01 |
| 03 | 04 | 891115 | 19.45 | 05 | 45 | 22 | 05 | 4 |
| 03 | 05 | 891115 | 19.45 | 45 | 22 | 05 | 09 | 4 |
| 03 | 06 | 891115 | 19.45 | 22 | 05 | 45 | 22 | 4 |
| 03 | 07 | 891115 | 19.45 | 05 | 45 | 22 | 04 | 286 |
| 03 | 08 | 891115 | 19.45 | 51 | 74 | 01 | 11 | 02 |
| 03 | 09 | 891115 | 19.45 | 01 | 51 | 74 | 11 | 03 |
| 04 | 01 | 891115 | 19.45 | 01 | 51 | 74 | 11 | 04 |
| 04 | 02 | 891115 | 19.45 | 45 | 22 | 05 | 00 | 4 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|-------------------|--------------|---------------|------------------|----------------------|-----------------------|--------------|
| | | | | left | right | rec. | vert. | no. | no. | |
| 04 | 03 | 891115 | 19.45 | 45 | 22 | 05 | 11 | 03 | 4 | 286 |
| 04 | 04 | 891115 | 19.45 | 22 | 05 | 45 | 11 | 03 | 4 | 286 |
| 01 | 01 | 891116 | 19.45 | 51 | 01 | 51 | 4 | 287 | 04 | 38 S |
| 02 | 01 | 891116 | 19.45 | 01 | 74 | 51 | 4 | 284 | 04 | 31 S |
| 02 | 02 | 891116 | 19.45 | 51 | 01 | 74 | 4 | 284 | 04 | 35 W |
| 02 | 03 | 891116 | 19.45 | 22 | 45 | 05 | 22 | 05 | 4 | 284 |
| 02 | 04 | 891116 | 19.45 | 45 | 05 | 22 | 4 | 284 | 04 | 29 S |
| 02 | 05 | 891116 | 19.45 | 05 | 22 | 45 | 4 | 284 | 04 | 096 43 W |
| 02 | 06 | 891116 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 284 |
| 02 | 07 | 891116 | 19.45 | 45 | 05 | 22 | 4 | 284 | 04 | 27 S |
| 02 | 08 | 891116 | 19.45 | 05 | 22 | 45 | 4 | 284 | 04 | 096 54 W |
| 02 | 09 | 891116 | 19.45 | 01 | 74 | 51 | 4 | 284 | 04 | 25 S |
| 02 | 10 | 891116 | 19.45 | 51 | 01 | 74 | 4 | 284 | 04 | 097 05 W |
| 02 | 11 | 891116 | 19.45 | 51 | 01 | 74 | 4 | 288 | 04 | 23 S |
| 02 | 12 | 891116 | 19.45 | 74 | 01 | 74 | 4 | 288 | 04 | 097 15 W |
| 03 | 01 | 891116 | 19.45 | 74 | 51 | 01 | 4 | 288 | 04 | 288 |
| 03 | 02 | 891116 | 19.45 | 45 | 22 | 05 | 4 | 288 | 04 | 19 S |
| 03 | 03 | 891116 | 19.45 | 45 | 05 | 22 | 4 | 288 | 04 | 18 S |
| 04 | 01 | 891116 | 19.45 | 05 | 22 | 45 | 22 | 45 | 4 | 288 |
| 04 | 02 | 891116 | 19.45 | 05 | 22 | 45 | 11 | 01 | 4 | 288 |
| 05 | 01 | 891116 | 19.45 | 22 | 45 | 05 | 11 | 01 | 4 | 288 |
| 06 | 01 | 891116 | 19.45 | 51 | 01 | 74 | 11 | 01 | 4 | 290 |
| 06 | 02 | 891116 | 19.45 | 74 | 01 | 74 | 11 | 02 | 4 | 290 |
| 06 | 03 | 891116 | 19.45 | 01 | 74 | 51 | 11 | 02 | 4 | 290 |
| 06 | 04 | 891116 | 19.45 | 45 | 05 | 22 | 11 | 02 | 4 | 290 |
| 06 | 05 | 891116 | 19.45 | 05 | 22 | 45 | 11 | 02 | 4 | 290 |
| 06 | 06 | 891116 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4 | 290 |
| 06 | 07 | 891116 | 19.45 | 45 | 05 | 22 | 11 | 02 | 4 | 290 |
| 06 | 08 | 891116 | 19.45 | 45 | 05 | 22 | 11 | 03 | 4 | 290 |
| 06 | 09 | 891116 | 19.45 | 74 | 01 | 74 | 11 | 03 | 4 | 290 |
| 06 | 10 | 891116 | 19.45 | 01 | 74 | 51 | 11 | 03 | 4 | 290 |
| 01 | 01 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 290 |
| 01 | 02 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 41 S |
| 01 | 03 | 891117 | 19.45 | 05 | 22 | 45 | 4 | 290 | 03 | 39 S |
| 01 | 04 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 290 |
| 01 | 05 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 37 S |
| 01 | 06 | 891117 | 19.45 | 05 | 22 | 45 | 1 | 01 | 4 | 290 |
| 01 | 07 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 290 |
| 01 | 08 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 36 S |
| 01 | 09 | 891117 | 19.45 | 01 | 74 | 51 | 01 | 74 | 4 | 290 |
| 01 | 10 | 891117 | 19.45 | 74 | 01 | 74 | 4 | 290 | 03 | 099 58 W |
| 01 | 11 | 891117 | 19.45 | 74 | 51 | 01 | 4 | 290 | 03 | 31 S |
| 01 | 12 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 00 100 30 W |
| 01 | 13 | 891117 | 19.45 | 22 | 05 | 22 | 4 | 290 | 03 | 30 S |
| 01 | 14 | 891117 | 19.45 | 05 | 22 | 45 | 4 | 290 | 03 | 00 100 35 W |
| 01 | 15 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 290 |
| 02 | 01 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 4 | 290 |
| 03 | 01 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 27 S |
| 03 | 02 | 891117 | 19.45 | 05 | 22 | 45 | 09 | 01 | 4 | 290 |
| 03 | 03 | 891117 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5 | 300 |
| 04 | 01 | 891117 | 19.45 | 01 | 74 | 51 | 10 | 01 | 5 | 300 |
| 04 | 02 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 02 | 300 |
| 04 | 03 | 891117 | 19.45 | 45 | 05 | 22 | 4 | 290 | 03 | 12 S |
| 04 | 04 | 891117 | 19.45 | 01 | 74 | 51 | 10 | 01 | 5 | 300 |
| 04 | 05 | 891117 | 19.45 | 22 | 45 | 05 | 22 | 45 | 02 | 300 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer left | codes | sun position horz. vert. | course (deg.) | position latitude longitude in leg | km in leg |
|--------|-----|--------|----------------|------------------|-------|-----------------------------|------------------|--|--------------|
| 04 | 04 | 891117 | 19.45 | 05 | 22 | 45 | 11 | 02 | 2.27 |
| 05 | 01 | 891117 | 19.45 | 05 | 22 | 45 | 11 | 02 | 0.32 |
| 05 | 02 | 891117 | 19.45 | 22 | 45 | 05 | 11 | 02 | 6.48 |
| 05 | 03 | 891117 | 19.45 | 45 | 05 | 22 | 11 | 02 | 5.51 |
| 05 | 04 | 891117 | 19.45 | 45 | 05 | 22 | 11 | 02 | 1.62 |
| 05 | 05 | 891117 | 19.45 | 05 | 22 | 45 | 01 | 11 | 5.83 |
| 05 | 06 | 891117 | 19.45 | 74 | 51 | 01 | 03 | 03 | 5.19 |
| 06 | 01 | 891117 | 19.45 | 74 | 51 | 01 | 11 | 03 | 2.59 |
| 06 | 02 | 891117 | 19.45 | 01 | 74 | 51 | 11 | 03 | 9.40 |
| 06 | 03 | 891117 | 19.45 | 01 | 74 | 51 | 11 | 03 | 5.51 |
| 06 | 04 | 891117 | 19.45 | 01 | 74 | 51 | 11 | 03 | 28 |
| 06 | 05 | 891117 | 19.45 | 05 | 22 | 45 | 01 | 74 | 5.51 |
| 06 | 06 | 891117 | 19.45 | 05 | 22 | 45 | 01 | 74 | 9.72 |
| 01 | 01 | 891118 | 19.45 | 51 | 01 | 74 | 01 | 74 | 1.30 |
| 02 | 01 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 3.24 |
| 03 | 01 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 8.10 |
| 03 | 02 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 11.34 |
| 03 | 03 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 6.48 |
| 03 | 04 | 891118 | 19.45 | 22 | 45 | 05 | 22 | 45 | 6.48 |
| 03 | 05 | 891118 | 19.45 | 45 | 05 | 22 | 45 | 05 | 6.48 |
| 03 | 06 | 891118 | 19.45 | 05 | 22 | 45 | 05 | 22 | 2.59 |
| 03 | 07 | 891118 | 19.45 | 22 | 45 | 05 | 22 | 45 | 11.34 |
| 04 | 01 | 891118 | 19.45 | 45 | 05 | 22 | 45 | 05 | 7.13 |
| 04 | 02 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 6.48 |
| 05 | 01 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 2.59 |
| 05 | 02 | 891118 | 19.45 | 01 | 51 | 74 | 01 | 74 | 1.30 |
| 06 | 01 | 891118 | 19.45 | 45 | 05 | 22 | 45 | 05 | 5.19 |
| 06 | 02 | 891118 | 19.45 | 45 | 05 | 22 | 45 | 05 | 2.59 |
| 06 | 03 | 891118 | 19.45 | 22 | 45 | 05 | 10 | 01 | 1.62 |
| 07 | 01 | 891118 | 19.45 | 22 | 45 | 05 | 10 | 01 | 3.89 |
| 07 | 02 | 891118 | 19.45 | 45 | 05 | 22 | 10 | 01 | 6.48 |
| 07 | 03 | 891118 | 19.45 | 05 | 22 | 45 | 11 | 01 | 8.10 |
| 07 | 04 | 891118 | 19.45 | 74 | 01 | 51 | 11 | 01 | 6.48 |
| 07 | 05 | 891118 | 19.45 | 05 | 22 | 45 | 10 | 01 | 8.10 |
| 08 | 01 | 891118 | 19.45 | 51 | 01 | 74 | 01 | 74 | 3.24 |
| 09 | 01 | 891118 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4.54 |
| 10 | 01 | 891118 | 19.45 | 45 | 05 | 22 | 11 | 02 | 6.81 |
| 10 | 02 | 891118 | 19.45 | 05 | 22 | 45 | 11 | 03 | 4.86 |
| 10 | 03 | 891118 | 19.45 | 22 | 45 | 05 | 11 | 03 | 4.86 |
| 10 | 04 | 891118 | 19.45 | 74 | 51 | 01 | 11 | 03 | 4.21 |
| 01 | 01 | 891119 | 19.45 | 45 | 22 | 05 | 45 | 4 | 5.19 |
| 01 | 02 | 891119 | 19.45 | 22 | 05 | 45 | 22 | 05 | 5.83 |
| 01 | 03 | 891119 | 19.45 | 05 | 45 | 22 | 05 | 4 | 4.54 |
| 01 | 04 | 891119 | 19.45 | 45 | 22 | 05 | 45 | 4 | 6.48 |
| 01 | 05 | 891119 | 19.45 | 51 | 01 | 74 | 01 | 74 | 5.83 |
| 01 | 06 | 891119 | 19.45 | 05 | 45 | 22 | 05 | 4 | 6.48 |
| 01 | 07 | 891119 | 19.45 | 01 | 74 | 51 | 01 | 74 | 4.54 |
| 01 | 08 | 891119 | 19.45 | 01 | 74 | 51 | 01 | 74 | 3.24 |
| 01 | 09 | 891119 | 19.45 | 51 | 01 | 74 | 01 | 74 | 6.81 |
| 01 | 10 | 891119 | 19.45 | 51 | 01 | 74 | 01 | 74 | 5.83 |
| 01 | 11 | 891119 | 19.45 | 74 | 51 | 01 | 74 | 01 | 74 |
| 02 | 01 | 891119 | 19.45 | 45 | 51 | 01 | 74 | 01 | 74 |
| 02 | 02 | 891119 | 19.45 | 22 | 05 | 45 | 4 | 2.82 | 10.05 |
| 02 | 03 | 891119 | 19.45 | 05 | 45 | 22 | 05 | 4 | 3.57 |
| 02 | 04 | 891119 | 19.45 | 45 | 51 | 01 | 74 | 01 | 74 |
| 03 | 01 | 891119 | 19.45 | 45 | 51 | 01 | 74 | 01 | 74 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | course no. (deg.) | position latitude longitude | km in leg |
|--------|-----|--------|----------------|----------------|-----------------------------|----------------------|--------------------------------|--------------|
| 03 | 02 | 891119 | 19.45 | 51 01 | 74 | 3 | 282 01 33 S 106 55 W | 6.16 |
| 04 | 01 | 891119 | 19.45 | 51 01 | 74 | 3 | 284 01 33 S 107 00 W | 1.30 |
| 04 | 02 | 891119 | 19.45 | 51 01 | 74 | 3 | 284 01 33 S 107 00 W | 2.59 |
| 04 | 03 | 891119 | 19.45 | 51 01 | 74 | 4 | 284 01 27 S 107 23 W | 10.37 |
| 04 | 04 | 891119 | 19.45 | 51 01 | 74 | 4 | 284 01 28 S 107 17 W | 7.78 |
| 04 | 05 | 891119 | 19.45 | 51 01 | 74 | 3 | 284 01 28 S 107 17 W | 5.19 |
| 05 | 01 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 01 24 S 107 31 W | 0.65 |
| 05 | 02 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 01 23 S 107 36 W | 3.57 |
| 05 | 03 | 891119 | 19.45 | 22 05 | 45 | 11 02 | 3 284 01 23 S 107 41 W | 2.92 |
| 05 | 04 | 891119 | 19.45 | 22 05 | 45 | 11 02 | 3 284 01 21 S 107 52 W | 6.48 |
| 05 | 05 | 891119 | 19.45 | 22 05 | 45 | 11 02 | 3 284 00 53 S 109 11 W | 6.16 |
| 06 | 01 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 10.37 |
| 06 | 02 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 6.48 |
| 06 | 03 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 1.30 |
| 06 | 04 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 10.05 |
| 06 | 05 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 2.92 |
| 06 | 06 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 2.59 |
| 06 | 07 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 0.32 |
| 07 | 01 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 53 S 109 11 W | 4.86 |
| 07 | 02 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 52 S 109 32 W | 6.48 |
| 07 | 03 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 52 S 109 32 W | 4.21 |
| 07 | 04 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 52 S 109 32 W | 2.92 |
| 07 | 05 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 52 S 109 32 W | 6.48 |
| 07 | 06 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 52 S 109 32 W | 5.19 |
| 07 | 07 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 50 S 129 50 W | 12.96 |
| 07 | 08 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 44 S 109 50 W | 8.75 |
| 07 | 09 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 40 S 110 02 W | 4.21 |
| 07 | 10 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 36 S 110 08 W | 12.96 |
| 07 | 11 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 29 S 110 36 W | 13.61 |
| 07 | 12 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 22 S 110 55 W | 12.32 |
| 07 | 13 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 22 S 110 55 W | 4.86 |
| 07 | 14 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 20 S 111 02 W | 9.40 |
| 07 | 15 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 20 S 111 10 W | 9.72 |
| 07 | 16 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 19 S 111 10 W | 14.58 |
| 07 | 17 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 12 N 112 54 W | 6.48 |
| 07 | 18 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 14 N 113 01 W | 6.16 |
| 07 | 19 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 17 N 113 14 W | 13.29 |
| 07 | 20 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 17 N 113 14 W | 12.64 |
| 07 | 21 | 891119 | 19.45 | 22 05 | 45 | 11 01 | 3 284 00 17 N 113 14 W | 13.61 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg | | |
|--------|-----|--------|----------------|-------------------|-----------------------------|---------------|------------------|--------------------------------|--------------|-----|-----|
| 01 | 10 | 891121 | 19.45 | 45 | 22 | 06 | 01 | 5 | 286 | | |
| 01 | 11 | 891121 | 19.45 | 22 | 05 | 06 | 01 | 5 | 286 | | |
| 02 | 01 | 891121 | 19.45 | 05 | 45 | 06 | 01 | 5 | 286 | | |
| 02 | 02 | 891121 | 19.45 | 45 | 22 | 06 | 01 | 5 | 286 | | |
| 02 | 03 | 891121 | 19.45 | 22 | 05 | 45 | 01 | 5 | 286 | | |
| 02 | 04 | 891121 | 19.45 | 05 | 45 | 22 | 01 | 5 | 286 | | |
| 02 | 05 | 891121 | 19.45 | 45 | 01 | 74 | 01 | 5 | 286 | | |
| 02 | 06 | 891121 | 19.45 | 51 | 01 | 09 | 01 | 5 | 286 | | |
| 03 | 01 | 891121 | 19.45 | 74 | 51 | 01 | 09 | 01 | 5 | 286 | |
| 04 | 01 | 891121 | 19.45 | 01 | 74 | 51 | 09 | 01 | 5 | 286 | |
| 04 | 02 | 891121 | 19.45 | 45 | 22 | 05 | 10 | 01 | 5 | 286 | |
| 04 | 03 | 891121 | 19.45 | 22 | 05 | 45 | 11 | 01 | 5 | 286 | |
| 04 | 04 | 891121 | 19.45 | 05 | 45 | 22 | 11 | 01 | 5 | 286 | |
| 04 | 05 | 891121 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 286 | |
| 04 | 06 | 891121 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 286 | |
| 04 | 07 | 891121 | 19.45 | 01 | 74 | 51 | 09 | 01 | 5 | 286 | |
| 05 | 01 | 891121 | 19.45 | 74 | 51 | 01 | 09 | 01 | 5 | 286 | |
| 05 | 02 | 891121 | 19.45 | 01 | 74 | 51 | 10 | 01 | 5 | 286 | |
| 05 | 03 | 891121 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 286 | |
| 05 | 04 | 891121 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 286 | |
| 05 | 05 | 891121 | 19.45 | 45 | 22 | 05 | 11 | 01 | 5 | 286 | |
| 06 | 01 | 891122 | 19.45 | 05 | 45 | 22 | 05 | 02 | 5 | 286 | |
| 01 | 02 | 891122 | 19.45 | 74 | 51 | 01 | 09 | 02 | 5 | 286 | |
| 01 | 03 | 891122 | 19.45 | 01 | 74 | 51 | 10 | 02 | 5 | 286 | |
| 01 | 04 | 891122 | 19.45 | 45 | 22 | 05 | 11 | 02 | 5 | 286 | |
| 01 | 05 | 891122 | 19.45 | 22 | 05 | 45 | 05 | 02 | 5 | 286 | |
| 01 | 06 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 06 | 02 | 5 | 286 |
| 01 | 07 | 891122 | 19.45 | 05 | 22 | 45 | 05 | 06 | 02 | 5 | 286 |
| 02 | 01 | 891122 | 19.45 | 22 | 45 | 05 | 22 | 06 | 02 | 5 | 286 |
| 02 | 02 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 05 | 02 | 5 | 286 |
| 02 | 03 | 891122 | 19.45 | 05 | 22 | 45 | 05 | 06 | 02 | 5 | 286 |
| 03 | 01 | 891122 | 19.45 | 01 | 74 | 51 | 01 | 09 | 01 | 5 | 286 |
| 03 | 02 | 891122 | 19.45 | 01 | 74 | 51 | 10 | 01 | 5 | 286 | |
| 03 | 03 | 891122 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5 | 286 | |
| 03 | 04 | 891122 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5 | 273 | |
| 03 | 05 | 891122 | 19.45 | 74 | 51 | 01 | 74 | 10 | 01 | 5 | 273 |
| 03 | 06 | 891122 | 19.45 | 01 | 74 | 51 | 05 | 02 | 09 | 01 | 273 |
| 03 | 07 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 02 | 09 | 01 | 273 |
| 03 | 08 | 891122 | 19.45 | 05 | 22 | 45 | 05 | 10 | 01 | 273 | 01 |
| 03 | 09 | 891122 | 19.45 | 22 | 45 | 05 | 10 | 01 | 5 | 273 | |
| 03 | 10 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 05 | 10 | 01 | 268 |
| 03 | 11 | 891122 | 19.45 | 01 | 74 | 51 | 01 | 11 | 01 | 5 | 268 |
| 03 | 12 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 10 | 01 | 5 | 268 |
| 03 | 13 | 891122 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5 | 268 | |
| 04 | 01 | 891122 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5 | 268 | |
| 04 | 02 | 891122 | 19.45 | 74 | 51 | 01 | 11 | 01 | 5 | 268 | |
| 04 | 03 | 891122 | 19.45 | 01 | 74 | 51 | 10 | 02 | 5 | 288 | |
| 04 | 04 | 891122 | 19.45 | 01 | 74 | 51 | 10 | 02 | 5 | 288 | |
| 04 | 05 | 891122 | 19.45 | 01 | 74 | 51 | 11 | 02 | 5 | 265 | |
| 04 | 06 | 891122 | 19.45 | 01 | 74 | 51 | 11 | 02 | 5 | 265 | |
| 04 | 07 | 891122 | 19.45 | 22 | 45 | 05 | 11 | 02 | 5 | 285 | |
| 04 | 08 | 891122 | 19.45 | 45 | 05 | 22 | 45 | 11 | 02 | 5 | 285 |
| 04 | 09 | 891122 | 19.45 | 05 | 22 | 45 | 05 | 11 | 02 | 5 | 285 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude in leg | km |
|--------|-----|--------|----------------|-------------------|-----------------------------|---------------|------------------|--------------------------------|-------|
| 04 | 10 | 891122 | 19.45 | 22 | 45 | 05 | 11 | 02 | 4.86 |
| 04 | 11 | 891122 | 19.45 | 45 | 05 | 22 | 11 | 02 | 4.86 |
| 04 | 12 | 891122 | 19.45 | 74 | 51 | 01 | 4 | 285 | 4.86 |
| 04 | 13 | 891122 | 19.45 | 74 | 51 | 01 | 4 | 285 | 2.59 |
| 04 | 14 | 891122 | 19.45 | 01 | 74 | 51 | 11 | 03 | 3.89 |
| 04 | 15 | 891122 | 19.45 | 01 | 74 | 51 | 11 | 03 | 4.54 |
| 04 | 16 | 891122 | 19.45 | 51 | 01 | 74 | 4 | 285 | 2.27 |
| 04 | 01 | 891123 | 19.45 | 22 | 45 | 05 | 4 | 285 | 11.34 |
| 01 | 02 | 891123 | 19.45 | 45 | 05 | 22 | 4 | 270 | 6.48 |
| 01 | 03 | 891123 | 19.45 | 05 | 22 | 45 | 4 | 270 | 6.48 |
| 01 | 04 | 891123 | 19.45 | 22 | 45 | 05 | 4 | 270 | 6.48 |
| 01 | 05 | 891123 | 19.45 | 45 | 05 | 22 | 4 | 270 | 6.48 |
| 01 | 06 | 891123 | 19.45 | 05 | 22 | 45 | 4 | 270 | 7.13 |
| 01 | 07 | 891123 | 19.45 | 51 | 01 | 74 | 07 | 02 | 12.32 |
| 01 | 08 | 891123 | 19.45 | 74 | 51 | 01 | 4 | 270 | 12.32 |
| 01 | 09 | 891123 | 19.45 | 01 | 74 | 51 | 07 | 01 | 12.96 |
| 01 | 10 | 891123 | 19.45 | 22 | 45 | 05 | 07 | 01 | 6.48 |
| 01 | 11 | 891123 | 19.45 | 45 | 05 | 22 | 07 | 01 | 6.48 |
| 01 | 12 | 891123 | 19.45 | 05 | 22 | 45 | 08 | 01 | 6.48 |
| 01 | 13 | 891123 | 19.45 | 22 | 45 | 05 | 08 | 01 | 6.81 |
| 01 | 14 | 891123 | 19.45 | 45 | 05 | 22 | 08 | 01 | 0.97 |
| 02 | 01 | 891123 | 19.45 | 74 | 51 | 01 | 09 | 01 | 11.34 |
| 02 | 02 | 891123 | 19.45 | 01 | 74 | 51 | 10 | 01 | 12.32 |
| 02 | 03 | 891123 | 19.45 | 51 | 01 | 74 | 10 | 01 | 7.13 |
| 02 | 04 | 891123 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5.83 |
| 02 | 05 | 891123 | 19.45 | 22 | 45 | 05 | 11 | 01 | 6.48 |
| 02 | 06 | 891123 | 19.45 | 45 | 05 | 22 | 11 | 02 | 6.48 |
| 02 | 07 | 891123 | 19.45 | 05 | 22 | 45 | 11 | 02 | 6.48 |
| 02 | 08 | 891123 | 19.45 | 22 | 45 | 05 | 11 | 02 | 6.48 |
| 02 | 09 | 891123 | 19.45 | 45 | 05 | 22 | 11 | 02 | 3.24 |
| 02 | 10 | 891123 | 19.45 | 05 | 22 | 10 | 02 | 5 | 4.54 |
| 02 | 11 | 891123 | 19.45 | 45 | 05 | 22 | 10 | 02 | 5.19 |
| 02 | 12 | 891123 | 19.45 | 01 | 74 | 51 | 10 | 02 | 6.48 |
| 02 | 13 | 891123 | 19.45 | 01 | 51 | 99 | 10 | 02 | 4.86 |
| 02 | 14 | 891123 | 19.45 | 01 | 74 | 51 | 10 | 02 | 0.97 |
| 02 | 15 | 891123 | 19.45 | 51 | 01 | 74 | 10 | 03 | 5.83 |
| 02 | 03 | 891123 | 19.45 | 74 | 51 | 01 | 10 | 03 | 3.57 |
| 01 | 01 | 891124 | 19.45 | 74 | 51 | 01 | 06 | 03 | 6.81 |
| 01 | 02 | 891124 | 19.45 | 01 | 74 | 51 | 07 | 03 | 10.37 |
| 01 | 02 | 891124 | 19.45 | 01 | 74 | 51 | 07 | 03 | 6.16 |
| 02 | 01 | 891124 | 19.45 | 51 | 01 | 74 | 07 | 03 | 5.19 |
| 02 | 02 | 891124 | 19.45 | 51 | 01 | 74 | 07 | 02 | 9.72 |
| 02 | 03 | 891124 | 19.45 | 51 | 01 | 74 | 07 | 02 | 2.59 |
| 02 | 04 | 891124 | 19.45 | 22 | 45 | 05 | 07 | 02 | 6.48 |
| 02 | 05 | 891124 | 19.45 | 45 | 05 | 22 | 45 | 07 | 6.48 |
| 02 | 06 | 891124 | 19.45 | 05 | 22 | 45 | 07 | 02 | 6.48 |
| 02 | 07 | 891124 | 19.45 | 22 | 45 | 05 | 07 | 02 | 6.48 |
| 02 | 08 | 891124 | 19.45 | 45 | 05 | 22 | 07 | 02 | 6.48 |
| 02 | 09 | 891124 | 19.45 | 05 | 22 | 45 | 07 | 01 | 7.13 |
| 02 | 10 | 891124 | 19.45 | 01 | 74 | 51 | 07 | 01 | 12.96 |
| 02 | 11 | 891124 | 19.45 | 51 | 01 | 74 | 08 | 01 | 10.70 |
| 02 | 12 | 891124 | 19.45 | 51 | 01 | 74 | 08 | 01 | 2.92 |
| 02 | 13 | 891124 | 19.45 | 74 | 51 | 01 | 08 | 01 | 4.54 |
| 02 | 03 | 891124 | 19.45 | 22 | 45 | 05 | 09 | 01 | 5.83 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position horz. no. | beauf. vert. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|--------------------|---------------------------|-----------------|------------------|----------------------|-----------------------|--------------|
| | | | | left right rec. | | | | | | |
| 03 | 02 | 891124 | 19.45 | 45 | 05 | 22 | 4 | 274 | 6.48 | |
| 03 | 03 | 891124 | 19.45 | 05 | 22 | 45 | 10 | 01 | 6.48 | |
| 03 | 04 | 891124 | 19.45 | 22 | 45 | 05 | 10 | 01 | 6.48 | |
| 03 | 05 | 891124 | 19.45 | 45 | 05 | 22 | 10 | 01 | 6.48 | |
| 03 | 06 | 891124 | 19.45 | 05 | 22 | 45 | 10 | 01 | 10.05 | |
| 03 | 07 | 891124 | 19.45 | 51 | 01 | 74 | 10 | 01 | 5.51 | |
| 04 | 01 | 891124 | 19.45 | 74 | 51 | 01 | 11 | 02 | 5.83 | |
| 04 | 02 | 891124 | 19.45 | 74 | 51 | 01 | 06 | 02 | 12.96 | |
| 04 | 03 | 891124 | 19.45 | 01 | 74 | 51 | 06 | 02 | 9.72 | |
| 04 | 04 | 891124 | 19.45 | 22 | 45 | 05 | 06 | 02 | 9.72 | |
| 04 | 05 | 891124 | 19.45 | 45 | 05 | 22 | 06 | 02 | 9.72 | |
| 04 | 06 | 891124 | 19.45 | 05 | 22 | 45 | 06 | 03 | 5.51 | |
| 04 | 07 | 891124 | 19.45 | 74 | 51 | 01 | 06 | 03 | 3.57 | |
| 05 | 01 | 891124 | 19.45 | 74 | 51 | 01 | 06 | 02 | 6.48 | |
| 01 | 01 | 891125 | 19.45 | 45 | 05 | 22 | 05 | 05 | 06.5 | |
| 01 | 02 | 891125 | 19.45 | 22 | 45 | 05 | 06 | 02 | 5.51 | |
| 02 | 01 | 891125 | 19.45 | 01 | 74 | 51 | 02 | 02 | 3.24 | |
| 02 | 02 | 891125 | 19.45 | 01 | 74 | 51 | 02 | 02 | 7.45 | |
| 03 | 01 | 891125 | 19.45 | 51 | 01 | 74 | 01 | 06 | 4.21 | |
| 03 | 02 | 891125 | 19.45 | 51 | 01 | 74 | 02 | 01 | 5.51 | |
| 03 | 03 | 891125 | 19.45 | 05 | 22 | 45 | 05 | 05 | 2.92 | |
| 03 | 04 | 891125 | 19.45 | 05 | 22 | 45 | 05 | 06 | 1.94 | |
| 03 | 05 | 891125 | 19.45 | 05 | 22 | 45 | 05 | 06 | 6.48 | |
| 01 | 01 | 891127 | 19.45 | 22 | 45 | 05 | 05 | 05 | 3.57 | |
| 01 | 02 | 891127 | 19.45 | 22 | 45 | 05 | 05 | 05 | 11.02 | |
| 01 | 03 | 891127 | 19.45 | 45 | 05 | 22 | 45 | 05 | 11.02 | |
| 01 | 04 | 891127 | 19.45 | 05 | 22 | 45 | 05 | 05 | 6.48 | |
| 01 | 05 | 891127 | 19.45 | 45 | 05 | 22 | 45 | 05 | 7.78 | |
| 01 | 06 | 891127 | 19.45 | 51 | 01 | 74 | 01 | 06 | 12.96 | |
| 01 | 07 | 891127 | 19.45 | 51 | 01 | 74 | 01 | 06 | 11.02 | |
| 02 | 01 | 891127 | 19.45 | 01 | 74 | 51 | 04 | 04 | 3.57 | |
| 03 | 01 | 891127 | 19.45 | 05 | 22 | 45 | 05 | 05 | 1.30 | |
| 03 | 02 | 891127 | 19.45 | 05 | 22 | 45 | 05 | 05 | 2.59 | |
| 03 | 03 | 891127 | 19.45 | 05 | 22 | 45 | 05 | 05 | 1.30 | |
| 03 | 04 | 891127 | 19.45 | 22 | 45 | 05 | 05 | 05 | 3.89 | |
| 04 | 01 | 891127 | 19.45 | 74 | 51 | 01 | 04 | 04 | 8.43 | |
| 05 | 01 | 891127 | 19.45 | 01 | 74 | 51 | 09 | 01 | 3.89 | |
| 05 | 02 | 891127 | 19.45 | 01 | 74 | 51 | 09 | 01 | 5.83 | |
| 05 | 03 | 891127 | 19.45 | 51 | 01 | 74 | 01 | 04 | 10.37 | |
| 05 | 04 | 891127 | 19.45 | 45 | 05 | 22 | 09 | 01 | 5.83 | |
| 05 | 05 | 891127 | 19.45 | 05 | 22 | 45 | 10 | 01 | 6.81 | |
| 05 | 06 | 891127 | 19.45 | 22 | 45 | 05 | 01 | 04 | 6.16 | |
| 05 | 07 | 891127 | 19.45 | 45 | 05 | 22 | 10 | 01 | 6.48 | |
| 06 | 01 | 891127 | 19.45 | 51 | 01 | 74 | 10 | 02 | 4.86 | |
| 06 | 02 | 891127 | 19.45 | 05 | 22 | 45 | 10 | 02 | 5.83 | |
| 06 | 03 | 891127 | 19.45 | 05 | 22 | 45 | 10 | 02 | 5.19 | |
| 06 | 04 | 891127 | 19.45 | 01 | 74 | 51 | 10 | 02 | 2.27 | |
| 07 | 01 | 891127 | 19.45 | 51 | 01 | 74 | 10 | 02 | 2.59 | |
| 07 | 02 | 891127 | 19.45 | 51 | 01 | 74 | 10 | 02 | 6.48 | |
| 07 | 03 | 891127 | 19.45 | 51 | 01 | 74 | 10 | 03 | 9.72 | |
| 07 | 04 | 891127 | 19.45 | 74 | 51 | 01 | 10 | 03 | 5.83 | |
| 07 | 05 | 891127 | 19.45 | 22 | 45 | 05 | 05 | 08 | 6.48 | |
| 01 | 01 | 891128 | 19.45 | 45 | 05 | 22 | 45 | 05 | 5.83 | |
| 01 | 02 | 891128 | 19.45 | 45 | 05 | 22 | 45 | 05 | 5.51 | |
| 01 | 03 | 891128 | 19.45 | 05 | 22 | 45 | 05 | 05 | 7.13 | |
| 01 | 04 | 891128 | 19.45 | 51 | 01 | 74 | 09 | 08 | 7.13 | |

Table 2. (continued)

| series | leg | date | speed km/hr | Observer left | codes | sun position horz. vert. | beauf. no. | course (deg.) | position latitude longitude | km in leg | |
|--------|-----|--------|----------------|------------------|-------|-----------------------------|---------------|------------------|--------------------------------|------------------|------|
| 01 | 01 | 891129 | 19.45 | 22 | 45 | 05 | 4 | 055 | 10 53 n 123 32 w | 6.81 | |
| 01 | 02 | 891129 | 19.45 | 45 | 05 | 22 | 4 | 055 | 10 57 n 123 28 w | 4.54 | |
| 01 | 03 | 891129 | 19.45 | 45 | 05 | 02 | 03 | 055 | 10 57 n 123 28 w | 1.94 | |
| 01 | 04 | 891129 | 19.45 | 05 | 22 | 45 | 02 | 058 | 11 01 n 123 20 w | 0.65 | |
| 01 | 05 | 891129 | 19.45 | 05 | 22 | 45 | 02 | 03 | 11 01 n 123 20 w | 6.48 | |
| 01 | 06 | 891129 | 19.45 | 22 | 45 | 05 | 02 | 03 | 11 01 n 123 20 w | 2.59 | |
| 01 | 07 | 891129 | 19.45 | 45 | 05 | 22 | 02 | 04 | 11 01 n 123 20 w | 3.24 | |
| 01 | 08 | 891129 | 19.45 | 45 | 05 | 22 | 02 | 04 | 11 01 n 123 20 w | 4.54 | |
| 01 | 09 | 891129 | 19.45 | 51 | 74 | 01 | 01 | 058 | 11 01 n 123 20 w | 1.94 | |
| 01 | 10 | 891129 | 19.45 | 51 | 74 | 01 | 01 | 058 | 11 01 n 123 20 w | 6.48 | |
| 01 | 11 | 891129 | 19.45 | 01 | 74 | 01 | 01 | 058 | 11 01 n 123 20 w | 12.59 | |
| 01 | 12 | 891129 | 19.45 | 01 | 74 | 02 | 02 | 058 | 11 01 n 123 20 w | 3.57 | |
| 01 | 13 | 891129 | 19.45 | 74 | 01 | 51 | 02 | 02 | 11 01 n 123 20 w | 1.62 | |
| 01 | 14 | 891129 | 19.45 | 74 | 01 | 51 | 02 | 02 | 11 01 n 123 20 w | 0.65 | |
| 01 | 15 | 891129 | 19.45 | 74 | 01 | 51 | 02 | 02 | 11 01 n 123 20 w | 6.48 | |
| 02 | 01 | 891129 | 19.45 | 74 | 01 | 51 | 03 | 01 | 11 01 n 123 20 w | 6.81 | |
| 03 | 01 | 891129 | 19.45 | 05 | 22 | 45 | 03 | 01 | 11 01 n 123 20 w | 8.75 | |
| 03 | 02 | 891129 | 19.45 | 22 | 45 | 05 | 04 | 01 | 11 01 n 123 20 w | 13.29 | |
| 03 | 03 | 891129 | 19.45 | 45 | 05 | 22 | 04 | 01 | 11 01 n 123 20 w | 12.64 | |
| 03 | 04 | 891129 | 19.45 | 01 | 51 | 74 | 04 | 01 | 11 01 n 123 20 w | 11.02 | |
| 03 | 05 | 891129 | 19.45 | 74 | 01 | 51 | 04 | 01 | 11 01 n 123 20 w | 1.94 | |
| 03 | 06 | 891129 | 19.45 | 51 | 74 | 01 | 05 | 01 | 11 01 n 123 20 w | 6.81 | |
| 03 | 07 | 891129 | 19.45 | 51 | 74 | 01 | 05 | 01 | 11 01 n 123 20 w | 6.16 | |
| 03 | 08 | 891129 | 19.45 | 05 | 22 | 45 | 05 | 058 | 11 01 n 123 20 w | 1.94 | |
| 03 | 09 | 891129 | 19.45 | 22 | 45 | 05 | 05 | 058 | 11 01 n 123 20 w | 0.32 | |
| 03 | 10 | 891129 | 19.45 | 45 | 05 | 22 | 45 | 04 | 11 01 n 123 20 w | 3.24 | |
| 03 | 11 | 891129 | 19.45 | 05 | 22 | 45 | 05 | 058 | 11 01 n 123 20 w | 3.24 | |
| 04 | 01 | 891129 | 19.45 | 74 | 01 | 51 | 05 | 058 | 11 01 n 123 20 w | 6.48 | |
| 04 | 02 | 891129 | 19.45 | 74 | 01 | 74 | 01 | 058 | 11 01 n 123 20 w | 11.34 | |
| 04 | 03 | 891129 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 04 | 04 | 891129 | 19.45 | 01 | 51 | 74 | 02 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 01 | 891130 | 19.45 | 74 | 01 | 51 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 02 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 03 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 04 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 05 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 06 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 01 | 11 01 n 123 20 w | 6.48 | |
| 01 | 07 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 01 | 11 01 n 123 20 w | 6.48 | |
| 01 | 08 | 891130 | 19.45 | 05 | 22 | 45 | 05 | 040 | 11 01 n 123 20 w | 6.48 | |
| 01 | 09 | 891130 | 19.45 | 22 | 45 | 05 | 05 | 040 | 11 01 n 123 20 w | 6.48 | |
| 03 | 10 | 891129 | 19.45 | 45 | 05 | 22 | 45 | 05 | 058 | 11 01 n 123 20 w | 6.48 |
| 03 | 11 | 891129 | 19.45 | 05 | 22 | 45 | 05 | 058 | 11 01 n 123 20 w | 6.48 | |
| 04 | 01 | 891129 | 19.45 | 74 | 01 | 74 | 01 | 058 | 11 01 n 123 20 w | 6.48 | |
| 04 | 02 | 891129 | 19.45 | 74 | 01 | 74 | 01 | 058 | 11 01 n 123 20 w | 6.48 | |
| 04 | 03 | 891129 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 04 | 04 | 891129 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 01 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 02 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 03 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 04 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 05 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 06 | 891130 | 19.45 | 05 | 22 | 45 | 05 | 036 | 11 01 n 123 20 w | 6.48 | |
| 01 | 07 | 891130 | 19.45 | 22 | 45 | 05 | 07 | 03 | 11 01 n 123 20 w | 6.48 | |
| 01 | 08 | 891130 | 19.45 | 45 | 05 | 22 | 05 | 036 | 11 01 n 123 20 w | 6.48 | |
| 01 | 09 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 10 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 11 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 12 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 13 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 14 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 15 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 16 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 17 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 18 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 19 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 20 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 21 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 22 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 23 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 24 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 25 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 26 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 27 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 28 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 29 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 30 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 31 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 32 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 33 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 34 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 35 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 36 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 37 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 38 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 39 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 40 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 41 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 42 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 43 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 44 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 45 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 46 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 47 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 48 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 49 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 50 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 51 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 52 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 53 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 54 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 55 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 56 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 57 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 58 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 59 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01 | 60 | 891130 | 19.45 | 01 | 51 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 61 | 891130 | 19.45 | 74 | 01 | 74 | 01 | 05 | 11 01 n 123 20 w | 6.48 | |
| 01 | 62 | 891130 | 19.45 | 51 | 74 | 01 | 05 | 02 | 11 01 n 123 20 w | 6.48 | |
| 01</ | | | | | | | | | | | |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position no. | beauf. vert. | course (deg.) | position latitude | position longitude | km in leg |
|--------|-----|--------|----------------|-------------------|---------------------|-----------------|------------------|----------------------|-----------------------|--------------|
| | | | left | right | horz. | rec. | | | | |
| 02 | 08 | 891203 | 19.45 | 05 | 22 | 45 | 05 | 01 | 5 | 6.48 |
| 02 | 09 | 891203 | 19.45 | 51 | 74 | 01 | 05 | 01 | 5 | 8.10 |
| 03 | 01 | 891203 | 19.45 | 01 | 51 | 74 | 06 | 01 | 5 | 7.45 |
| 03 | 02 | 891203 | 19.45 | 74 | 01 | 51 | 06 | 01 | 5 | 8.10 |
| 03 | 03 | 891203 | 19.45 | 22 | 45 | 05 | 06 | 01 | 5 | 4.21 |
| 03 | 04 | 891203 | 19.45 | 22 | 45 | 05 | 06 | 01 | 5 | 1.94 |
| 03 | 05 | 891203 | 19.45 | 45 | 05 | 22 | 06 | 02 | 5 | 6.48 |
| 03 | 06 | 891203 | 19.45 | 05 | 22 | 45 | 06 | 02 | 5 | 6.48 |
| 03 | 07 | 891203 | 19.45 | 22 | 45 | 05 | 06 | 02 | 5 | 6.48 |
| 03 | 08 | 891203 | 19.45 | 45 | 05 | 22 | 06 | 02 | 5 | 6.48 |
| 03 | 09 | 891203 | 19.45 | 05 | 22 | 45 | 06 | 02 | 5 | 6.48 |
| 03 | 10 | 891203 | 19.45 | 01 | 51 | 74 | 07 | 03 | 5 | 9.72 |
| 03 | 11 | 891203 | 19.45 | 74 | 01 | 51 | 07 | 03 | 5 | 6.16 |
| 03 | 12 | 891203 | 19.45 | 74 | 01 | 51 | 07 | 03 | 4 | 3.57 |
| 01 | 01 | 891204 | 19.45 | 51 | 74 | 01 | 03 | 03 | 5 | 11.34 |
| 01 | 02 | 891204 | 19.45 | 01 | 51 | 74 | 03 | 03 | 5 | 11.34 |
| 01 | 03 | 891204 | 19.45 | 74 | 01 | 51 | 03 | 03 | 5 | 11.34 |
| 01 | 04 | 891204 | 19.45 | 22 | 45 | 05 | 03 | 02 | 5 | 11.34 |
| 01 | 05 | 891204 | 19.45 | 45 | 05 | 22 | 03 | 02 | 5 | 12.96 |
| 01 | 06 | 891204 | 19.45 | 05 | 22 | 45 | 03 | 02 | 5 | 5.83 |
| 01 | 07 | 891204 | 19.45 | 22 | 45 | 05 | 03 | 02 | 5 | 6.48 |
| 01 | 08 | 891204 | 19.45 | 45 | 05 | 22 | 04 | 02 | 5 | 6.48 |
| 01 | 09 | 891204 | 19.45 | 05 | 22 | 45 | 04 | 02 | 5 | 6.48 |
| 10 | 01 | 891204 | 19.45 | 01 | 51 | 74 | 04 | 02 | 5 | 12.96 |
| 11 | 01 | 891204 | 19.45 | 74 | 01 | 51 | 04 | 02 | 5 | 8.43 |
| 01 | 01 | 891205 | 19.45 | 22 | 45 | 05 | 03 | 03 | 5 | 6.16 |
| 01 | 02 | 891205 | 19.45 | 45 | 05 | 22 | 03 | 03 | 5 | 6.48 |
| 01 | 03 | 891205 | 19.45 | 05 | 22 | 45 | 03 | 03 | 5 | 6.48 |
| 01 | 04 | 891205 | 19.45 | 22 | 45 | 05 | 03 | 03 | 5 | 6.48 |
| 01 | 05 | 891205 | 19.45 | 45 | 05 | 22 | 03 | 03 | 5 | 6.48 |
| 01 | 06 | 891205 | 19.45 | 01 | 74 | 51 | 03 | 02 | 5 | 13.29 |
| 01 | 07 | 891205 | 19.45 | 51 | 01 | 74 | 03 | 02 | 5 | 9.40 |
| 01 | 08 | 891205 | 19.45 | 51 | 01 | 74 | 03 | 02 | 4 | 3.24 |
| 01 | 09 | 891205 | 19.45 | 74 | 01 | 74 | 03 | 02 | 4 | 12.96 |
| 01 | 10 | 891205 | 19.45 | 05 | 22 | 45 | 04 | 02 | 4 | 6.48 |
| 01 | 11 | 891205 | 19.45 | 22 | 45 | 05 | 04 | 02 | 4 | 6.48 |
| 01 | 12 | 891205 | 19.45 | 45 | 05 | 22 | 04 | 02 | 4 | 6.48 |
| 01 | 13 | 891205 | 19.45 | 05 | 22 | 45 | 04 | 02 | 4 | 6.48 |
| 01 | 14 | 891205 | 19.45 | 22 | 45 | 05 | 05 | 02 | 4 | 6.48 |
| 01 | 15 | 891205 | 19.45 | 45 | 05 | 22 | 05 | 02 | 4 | 1.94 |
| 02 | 02 | 891205 | 19.45 | 51 | 01 | 74 | 08 | 02 | 3 | 4.54 |
| 02 | 03 | 891205 | 19.45 | 74 | 01 | 08 | 02 | 02 | 3 | 6.81 |
| 02 | 04 | 891205 | 19.45 | 05 | 22 | 45 | 10 | 02 | 3 | 5.83 |
| 03 | 05 | 891205 | 19.45 | 22 | 45 | 05 | 10 | 03 | 3 | 6.48 |
| 03 | 06 | 891205 | 19.45 | 45 | 05 | 22 | 10 | 03 | 3 | 6.48 |
| 03 | 07 | 891205 | 19.45 | 74 | 01 | 08 | 03 | 03 | 3 | 7.78 |
| 03 | 08 | 891205 | 19.45 | 01 | 74 | 51 | 08 | 03 | 2 | 355 |

Table 2. (continued)

| series | leg | date | speed km/hr | observer codes | sun position | beauf. no. | course (deg.) | position latitude | longitude | km in leg | | |
|--------|-----|--------|----------------|--------------------|----------------|---------------|------------------|----------------------|-----------|--------------|----------|------|
| | | | | left right rec. | horz. vert. | | | | | | | |
| 01 | 01 | 891206 | 19.45 | 45 | 05 | 22 | 1 | 340 | 30 08 n | 116 35 w | 6.48 | |
| 01 | 02 | 891206 | 19.45 | 05 | 22 | 45 | 02 | 025 | 30 11 n | 116 36 w | 4.21 | |
| 01 | 03 | 891206 | 19.45 | 05 | 22 | 45 | 02 | 346 | | | 2.59 | |
| 01 | 04 | 891206 | 19.45 | 22 | 01 | 05 | 02 | 1 | 346 | | 4.21 | |
| 02 | 01 | 891206 | 19.45 | 01 | 74 | 51 | 05 | 1 | 347 | 30 25 n | 116 39 w | 8.10 |
| 02 | 02 | 891206 | 19.45 | 01 | 74 | 51 | 03 | 1 | 060 | 30 30 n | 116 40 w | 2.92 |
| 02 | 03 | 891206 | 19.45 | 51 | 01 | 74 | 03 | 1 | 060 | | 9.72 | |

Table 3. Marine mammal sightings, classified by species code, encountered in the eastern tropical Pacific during July 29 through December 7, 1989.

| Sightings by Species | | | | | | | | | | | | | | |
|---|--------|-----|--------------|--------------|--------|----------|---------|----------|-----------|----------|---------------|------------|----------------------|-------|
| species: OFFSHORE SPOTTED DOLPHIN (STENELLA ATTENUATA) | | | | | | | | | | | | | | |
| date | series | leg | sight number | sun position | beauf. | detected | perp. | latitude | longitude | deg min | (% of school) | proportion | mean school size est | |
| yr\mo\dy | | | | | | | | | | | | | | |
| 890801 | 06 | 01 | 05 | 03 | 4 | 55 | 1.6 | 20 46 n | 115 59 w | 100 0 | 303 0 | 255 0 | | |
| 890801 | 07 | 01 | 06 | 3 | 71 | 0.7 | 20 42 n | 116 00 w | 100 0 | 62 0 | 47 0 | | | |
| 890805 | 08 | 03 | 07 | 10 | 02 | 73 | 0.2 | 12 58 n | 117 20 w | 58 7 | 1537 0 | 1237 0 | | |
| 890806 | 05 | 02 | 02 | 1 | 4 | 71 | 2.2 | 11 47 n | 116 06 w | 60 0 | 333 0 | 245 0 | | |
| 890806 | 11 | 02 | 08 | | | 56 | 1.2 | 11 01 n | 114 48 w | 45 0 | 494 0 | 361 0 | | |
| 890807 | 02 | 02 | 03 | 04 | 12 | 4 | 56 | 3.0 | 09 51 n | 112 39 w | 100 0 | 260 0 | 203 0 | |
| 890807 | 03 | 06 | 03 | 04 | 11 | 02 | 55 | 0.3 | 05 26 n | 110 21 w | 100 0 | 138 0 | 107 0 | |
| 890810 | 04 | 09 | 04 | 11 | 02 | 4 | 55 | 1.1 | 05 21 n | 110 58 w | 100 0 | 97 0 | 82 0 | |
| 890810 | 05 | 06 | 05 | 6 | 73 | 0.7 | 0.6 | 05 30 n | 111 12 w | 20 0 | 273 0 | 247 0 | | |
| 890812 | 01 | | | | | | 0.3 | 07 01 n | 116 02 w | 100 0 | 45 0 | 40 0 | | |
| 890813 | | | | | | | 0.4 | 07 52 n | 118 50 w | 100 0 | 90 0 | 70 0 | | |
| 890814 | 02 | 02 | 03 | 10 | 02 | 5 | 55 | 2.0 | 09 31 n | 121 38 w | 100 0 | 127 0 | 95 0 | |
| 890814 | 02 | 01 | 02 | 11 | 02 | 3 | 55 | 1.6 | 12 35 n | 126 53 w | 54 0 | 218 0 | 182 0 | |
| 890816 | 02 | 01 | 06 | 01 | 4 | 07 | 0.8 | 13 51 n | 129 54 w | 5 3 | 1100 0 | 1013 0 | | |
| 890817 | 06 | 01 | 06 | 12 | 02 | 4 | 55 | 3.2 | 13 48 n | 130 04 w | 100 0 | 112 0 | 97 0 | |
| 890817 | 07 | 02 | 07 | 12 | 02 | 4 | 55 | 0.6 | 10 20 n | 139 12 w | 80 2 | 214 0 | 196 0 | |
| 890821 | 02 | 02 | 02 | 05 | 12 | 4 | 71 | 2.7 | 12 17 n | 142 31 w | 40 3 | 322 0 | 277 0 | |
| 890822 | 03 | 04 | 02 | 05 | 12 | 4 | 73 | 1.5 | 10 22 n | 147 23 w | 45 0 | 498 0 | 443 0 | |
| 890904 | 03 | 01 | 02 | 4 | 4 | 55 | 4.4 | 10 12 n | 147 15 w | 55 0 | 265 0 | 217 0 | | |
| 890904 | 04 | 01 | 03 | 3 | 67 | 0.7 | 10 59 n | 146 56 w | 20 3 | 908 0 | 817 0 | | | |
| 890904 | 05 | 01 | 04 | | | | 0.2 | 05 14 n | 132 49 w | 96 0 | 890 0 | 760 0 | | |
| 890909 | 03 | 09 | 03 | | | | 0.3 | 06 13 n | 130 38 w | 100 0 | 157 0 | 139 0 | | |
| 890910 | 01 | | | | | | 1.7 | 06 37 n | 130 10 w | 50 3 | 85 0 | 73 0 | | |
| 890910 | 02 | 05 | 06 | 02 | 01 | 5 | 56 | 2.1 | 04 22 n | 125 25 w | 100 0 | 95 0 | 87 0 | |
| 890912 | 01 | 04 | 02 | 12 | 03 | 4 | 71 | 0.0 | 04 30 n | 122 36 w | 100 0 | 119 0 | 90 0 | |
| 890913 | 01 | 06 | 01 | 12 | 03 | 4 | 56 | 1.3 | 02 18 n | 108 37 w | 65 0 | 160 0 | 140 0 | |
| 890918 | 01 | | | | | | 67 | 4.4 | 02 21 n | 107 24 w | 83 3 | 232 0 | 178 0 | |
| 890918 | 07 | 01 | 06 | | | | 5 | 67 | 02 32 n | 104 45 w | 15 7 | 330 0 | 240 0 | |
| 890919 | 02 | 02 | 02 | 01 | 06 | 02 | 55 | 3.5 | 02 20 n | 099 47 w | 40 0 | 203 0 | 167 0 | |
| 890921 | 01 | 05 | 01 | 06 | 03 | 5 | 55 | 5.3 | 02 05 n | 087 43 w | 100 0 | 294 0 | 231 0 | |
| 890922 | 01 | 08 | 03 | | | | 73 | 0.3 | 01 18 n | 096 40 w | 65 0 | 350 0 | 264 0 | |
| 891014 | 02 | 02 | 01 | 01 | 4 | 01 | 1.0 | 01 59 s | 110 17 w | 21 3 | 1421 0 | 959 0 | | |
| 891016 | 04 | 04 | 12 | 4 | 12 | 4 | 22 | 1.1 | 02 05 s | 117 02 w | 35 0 | 220 0 | 182 0 | |
| 891017 | 01 | 01 | 01 | 06 | 03 | 5 | 55 | 4.0 | 02 02 s | 119 25 w | 56 7 | 277 0 | 213 0 | |
| 891031 | 01 | 08 | 02 | 01 | 2 | 05 | 0.5 | 0.8 | 04 05 n | 087 43 w | 100 0 | 0 0 * | 75 0 | |
| 891112 | 05 | 01 | 01 | 09 | 01 | 4 | 74 | 5.9 | 06 05 n | 086 43 w | 33 3 | 283 0 | 238 0 | |
| 891117 | 03 | 03 | 06 | 01 | 4 | 01 | 4.0 | 3.2 | 02 55 n | 093 28 w | 100 0 | 683 0 | 517 0 | |
| 891118 | 01 | 01 | 01 | 4 | 12 | 4 | 45 | 4.0 | 03 23 s | 102 50 w | 100 0 | 315 0 | 267 0 | |
| 891118 | 05 | 02 | 01 | 11 | 01 | 4 | 74 | 0.5 | 02 47 s | 103 36 w | 14 0 | 230 0 | 190 0 | |
| 891119 | 01 | 01 | 01 | 4 | 74 | 0.1 | 1.6 | 0.2 | 02 29 s | 106 32 w | 100 0 | 39 0 | 28 0 | |
| 891121 | 03 | 01 | 02 | 09 | 01 | 5 | 51 | 0.8 | 01 39 s | 106 38 n | 114 14 w | 100 0 | 567 0 | 443 0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|---------------|----------------------|
| species: OFFSHORE SPOTTED DOLPHIN (STENELLA ATTENUATA) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr\mo\dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | (% of school) | best low |
| 891121 | 04 | 07 | 03 | 11 | 02 | 5 | 45 | 0.3 | 00 47 n | 114 49 w | 100.0 597.0 |
| 891121 | 05 | 04 | 04 | 04 | 01 | 4 | 05 | 1.0 | 00 54 n | 115 12 w | 100.0 85.0 |
| 891122 | 03 | 13 | 04 | 10 | 01 | 5 | 51 | 0.2 | 01 41 n | 118 14 w | 100.0 45.0 |
| 891122 | 04 | 16 | 05 | 11 | 03 | 4 | 01 | 0.7 | 01 52 n | 119 07 w | 100.0 45.0 |
| 891124 | 02 | 13 | 03 | 08 | 01 | 5 | 74 | 1.4 | 02 00 n | 125 17 w | 100.0 18.0 |
| | | | | | | | | | | | 13.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-------|-------|--------------|--------|------------|---------|----------|---------------|------------|----------------------|
| Species: SPINNER DOLPHIN (STENELLA LONGIROSTRIS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mody | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 890806 | 11 | 02 | 08 | 1 | 56 | 1.2 | 11 01 n | 114 48 w | 5.0 | 494.0 | 361.0 |
| 890807 | 04 | 04 | 05 | 3 | 56 | 0.5 | 09 32 n | 112 00 w | 3.0 | 0.0* | 150.0 |
| 890918 | 07 | 01 | 06 | 5 | 67 | 4.4 | 02 21 n | 107 24 w | 16.7 | 232.0 | 178.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|--|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|---------------|------------------|-------|
| species: COMMON DOLPHIN (DELPHINUS DELPHIS) | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est |
| yr/mo/dy | | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 890731 | 01 | 02 | 01 | 09 | 03 | 3 | 67 | 3.0 | 26 24 n | 116 43 w | 100.0 | 175.0 |
| 890731 | 02 | 03 | 02 | 09 | 02 | 4 | 73 | 2.1 | 26 13 n | 116 32 w | 100.0 | 242.0 |
| 891206 | | 07 | | | 2 | 99 | 2.9 | 31 01 n | 116 36 w | 100.0 | 0.0* | 208.0 |
| | | | | | | | | | | | 0.0* | 0.0* |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | |
|---|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|---------------|------------------|-------|-------|
| species: EASTERN SPINNER DOLPHIN (STENELLA LONGIROSTRIS) | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est | |
| ymddy | | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low | |
| 890803 | 03 | 02 | 04 | 12 | 3 | 67 | 1.4 | 17 17 n | 112 29 w | 100.0 | 177.0 | 148.0 | |
| 890803 | 04 | 01 | 05 | 01 | 2 | 07 | 0.7 | 17 12 n | 112 31 w | 5.7 | 35.0 | 26.0 | |
| 890804 | 05 | 01 | 02 | 01 | 2 | 55 | 0.5 | 15 20 n | 115 05 w | 100.0 | 44.0 | 37.0 | |
| 890805 | 04 | 01 | 03 | 07 | 12 | 07 | 0.2 | 13 33 n | 117 31 w | 100.0 | 275.0 | 238.0 | |
| 890805 | 08 | 03 | 07 | 3 | 73 | 0.2 | 12 58 n | 117 20 w | 41.2 | 1537.0 | 1237.0 | | |
| 890806 | 02 | 01 | 01 | 01 | 3 | 56 | 0.5 | 11 53 n | 116 15 w | 100.0 | 102.0 | 91.0 | |
| 890806 | 05 | 02 | 02 | 10 | 02 | 71 | 2.2 | 11 47 n | 116 06 w | 6.7 | 333.0 | 245.0 | |
| 890806 | 06 | 05 | 03 | 12 | 3 | 55 | 0.2 | 11 26 n | 115 33 w | 100.0 | 286.0 | 256.0 | |
| 890816 | 02 | 01 | 02 | 11 | 02 | 3 | 55 | 1.6 | 12 35 n | 126 53 w | 46.0 | 218.0 | 182.0 |
| 891031 | | 06 | | | 5 | 74 | 0.8 | 04 05 n | 087 25 w | 19.0 | 277.0 | 213.0 | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|--|--------|-----|--------------|--------------|--------------|-------------|------------------|------------------|-------------------|--------------------------|----------------------|--------|
| species: WHITEBELLY SPINNER DOLPHIN (STENELLA LONGIROSTRIS) | | | | | | | | | | | | |
| date | series | leg | sight number | sun position | beauf. vert. | detected by | perp. dist. (km) | latitude deg min | longitude deg min | proportion (% of school) | mean school size est | |
| yr\mo\dy | | | | | | | | | | | | |
| 890810 | 01 | 01 | 4 | 07 | 1.8 | 04.51 n | 109 48 w | 100.0 | 273.0 | 225.0 | | |
| 890810 | 05 | 06 | 4 | 07 | 0.6 | 05 30 n | 111 12 w | 80.0 | 273.0 | 247.0 | | |
| 890817 | 01 | 01 | 12 | 01 | 4 | 71 | 5.0 | 13 23 n | 128 27 w | 94.3 | 197.0 | 167.0 |
| 890817 | 05 | 02 | 05 | 01 | 4 | 71 | 6.5 | 13 48 n | 129 49 w | 100.0 | 613.0 | 517.0 |
| 890817 | 06 | 01 | 06 | 01 | 4 | 71 | 0.8 | 13 51 n | 129 54 w | 94.7 | 1100.0 | 1013.0 |
| 890821 | 02 | 02 | 05 | 02 | 4 | 55 | 0.6 | 10 20 n | 139 12 w | 19.8 | 214.0 | 196.0 |
| 890822 | 03 | 04 | 02 | 05 | 4 | 71 | 2.7 | 12 17 n | 142 31 w | 59.7 | 322.0 | 277.0 |
| 890904 | 01 | 01 | 01 | 01 | 4 | 07 | 0.6 | 11 03 n | 148 00 w | 100.0 | 98.0 | 83.0 |
| 890904 | 03 | 01 | 02 | 01 | 4 | 73 | 1.5 | 10 22 n | 147 23 w | 55.0 | 498.0 | 443.0 |
| 890904 | 04 | 01 | 03 | 01 | 4 | 55 | 4.4 | 10 12 n | 147 15 w | 45.0 | 265.0 | 217.0 |
| 890904 | 05 | 01 | 04 | 01 | 3 | 67 | 0.7 | 10 59 n | 146 56 w | 79.7 | 908.0 | 817.0 |
| 890904 | 07 | 03 | 06 | 03 | 3 | 67 | 0.3 | 09 41 n | 146 44 w | 100.0 | 57.0 | 51.0 |
| 890909 | 03 | 09 | 03 | 04 | 4 | 56 | 0.2 | 05 14 n | 132 49 w | 4.0 | 890.0 | 760.0 |
| 890910 | 02 | 05 | 06 | 02 | 01 | 56 | 1.7 | 06 37 n | 130 10 w | 49.7 | 85.0 | 73.0 |
| 890918 | 01 | 01 | 01 | 01 | 4 | 67 | 1.3 | 02 18 n | 108 37 w | 1.7 | 160.0 | 140.0 |
| 890919 | 02 | 02 | 02 | 02 | 4 | 71 | 3.5 | 02 32 n | 104 45 w | 84.3 | 330.0 | 240.0 |
| 890920 | 04 | 01 | 03 | 01 | 5 | 71 | 1.1 | 02 36 n | 102 22 w | 100.0 | 142.0 | 103.0 |
| 890921 | 01 | 05 | 01 | 01 | 5 | 55 | 5.3 | 02 20 n | 099 47 w | 60.0 | 203.0 | 167.0 |
| 891014 | 02 | 02 | 01 | 01 | 4 | 01 | 1.0 | 01 59 s | 110 17 w | 35.0 | 350.0 | 264.0 |
| 891016 | 04 | 04 | 04 | 12 | 4 | 22 | 1.1 | 02 05 s | 117 02 w | 10.7 | 1421.0 | 959.0 |
| 891017 | 01 | 01 | 06 | 03 | 5 | 45 | 4.0 | 02 02 s | 119 25 w | 65.0 | 220.0 | 182.0 |
| 891031 | 06 | 06 | 06 | 06 | 5 | 74 | 0.8 | 04 05 n | 087 25 w | 6.0 | 277.0 | 213.0 |
| 891112 | 05 | 01 | 01 | 01 | 2 | 74 | 3.2 | 02 55 n | 093 28 w | 66.7 | 283.0 | 238.0 |
| 891116 | 03 | 03 | 03 | 03 | 4 | 05 | 0.8 | 04 19 s | 097 27 w | 25.0 | 275.0 | 243.0 |
| 891117 | 03 | 03 | 06 | 09 | 01 | 01 | 4.0 | 03 23 s | 100 51 w | 89.0 | 683.0 | 517.0 |

Table 3. (continued)

Sightings by Species

| Sightings by Species | | | | | | | | | | | |
|--|--------|-----|--------------|--------|--------------|------------|----------|---------|---------------|-----------|------------|
| species: STRIPED DOLPHIN (S. COERULEALBA) | | | | | | | | | | | |
| date | series | leg | sight number | horz. | sun position | beauf. | detected | perp. | latitute | longitude | proportion |
| yr/mo/ | dy | mo | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | mean |
| 890731 | 03 | 08 | 03 | 11 | 01 | 4 | 71 | 3.5 | 25 37 n | 116 21 w | 188.0 |
| 890801 | 01 | 03 | 01 | 09 | 03 | 4 | 71 | 0.0 | 22 51 n | 115 52 w | 100.0 |
| 890801 | 02 | 02 | 02 | 08 | 02 | 4 | 73 | 1.5 | 22 43 n | 115 52 w | 100.0 |
| 890801 | 05 | 06 | 04 | 03 | 03 | 4 | 73 | 0.1 | 20 49 n | 115 59 w | 100.0 |
| 890802 | 03 | 02 | 04 | 04 | 01 | 4 | 71 | 4.0 | 19 18 n | 114 43 w | 100.0 |
| 890802 | 05 | 01 | 06 | 04 | 02 | 4 | 73 | 0.2 | 18 57 n | 114 17 w | 100.0 |
| 890802 | 07 | 04 | 08 | 02 | 01 | 10 | 71 | 0.1 | 18 43 n | 113 55 w | 100.0 |
| 890803 | 01 | 09 | 02 | 10 | 01 | 2 | 71 | 2.3 | 17 33 n | 112 24 w | 100.0 |
| 890803 | 02 | 04 | 03 | 08 | 01 | 3 | 73 | 0.4 | 17 25 n | 112 22 w | 100.0 |
| 890803 | 04 | 01 | 05 | 01 | 01 | 2 | 07 | 0.7 | 17 12 n | 112 31 w | 27.7 |
| 890804 | 01 | 08 | 01 | 07 | 02 | 3 | 71 | 2.7 | 15 38 n | 114 40 w | 100.0 |
| 890805 | 05 | 01 | 04 | 12 | 12 | 3 | 56 | 1.2 | 13 23 n | 117 35 w | 100.0 |
| 890805 | 06 | 02 | 05 | 04 | 02 | 3 | 55 | 4.4 | 13 25 n | 117 29 w | 100.0 |
| 890805 | 07 | 02 | 06 | 05 | 02 | 3 | 56 | 0.2 | 13 04 n | 117 28 w | 100.0 |
| 890805 | 09 | 03 | 06 | 03 | 05 | 1 | 56 | 2.9 | 04 49 n | 108 32 w | 100.0 |
| 890811 | 02 | 04 | 01 | 04 | 01 | 4 | 56 | 1.3 | 05 55 n | 112 39 w | 100.0 |
| 890817 | 02 | 02 | 03 | 02 | 02 | 07 | 55 | 3.5 | 13 33 n | 128 34 w | 100.0 |
| 890819 | 03 | 03 | 02 | 02 | 01 | 4 | 55 | 0.6 | 10 24 n | 134 52 w | 100.0 |
| 890819 | 03 | 04 | 02 | 03 | 02 | 3 | 67 | 1.7 | 10 12 n | 135 05 w | 100.0 |
| 890819 | 04 | 03 | 02 | 03 | 04 | 4 | 73 | 0.2 | 10 03 n | 135 11 w | 65.7 |
| 890821 | 06 | 04 | 05 | 11 | 02 | 2 | 56 | 2.6 | 11 00 n | 140 21 w | 100.0 |
| 890823 | 01 | 11 | 03 | 11 | 03 | 5 | 55 | 0.0 | 14 38 n | 146 21 w | 100.0 |
| 890824 | 02 | 07 | 01 | 11 | 02 | 4 | 55 | 0.4 | 16 24 n | 149 13 w | 100.0 |
| 890905 | 01 | 06 | 01 | 02 | 12 | 4 | 56 | 0.8 | 07 53 n | 145 04 w | 100.0 |
| 890909 | 01 | 03 | 03 | 03 | 03 | 4 | 67 | 0.8 | 05 15 n | 133 27 w | 100.0 |
| 890913 | 03 | 03 | 01 | 05 | 05 | 11 | 56 | 0.4 | 04 21 n | 121 53 w | 100.0 |
| 890913 | 06 | 01 | 05 | 06 | 05 | 05 | 67 | 0.1 | 04 16 n | 121 17 w | 100.0 |
| 890913 | 07 | 03 | 06 | 03 | 06 | 03 | 67 | 0.4 | 04 12 n | 121 08 w | 100.0 |
| 890916 | 01 | 01 | 05 | 02 | 05 | 2 | 71 | 0.9 | 02 35 n | 113 58 w | 100.0 |
| 890919 | 01 | 13 | 01 | 01 | 01 | 4 | 73 | 0.2 | 02 29 n | 104 54 w | 100.0 |
| 890920 | 05 | 15 | 04 | 04 | 04 | 7 | 07 | 3.0 | 02 34 n | 102 36 w | 100.0 |
| 890920 | 06 | 02 | 05 | 05 | 05 | 05 | 56 | 0.5 | 02 37 n | 101 30 w | 100.0 |
| 890920 | 07 | 07 | 03 | 06 | 06 | 03 | 55 | 5.1 | 02 36 n | 101 20 w | 100.0 |
| 890922 | 05 | 01 | 09 | 05 | 09 | 05 | 67 | 0.2 | 02 33 n | 101 13 w | 100.0 |
| 890923 | 09 | 05 | 03 | 05 | 03 | 5 | 73 | 0.2 | 00 51 n | 095 39 w | 100.0 |
| 891007 | 01 | 03 | 01 | 03 | 01 | 6 | 71 | 0.2 | 00 51 s | 093 07 w | 100.0 |
| 891009 | 01 | 02 | 01 | 03 | 03 | 05 | 56 | 1.2 | 02 12 s | 081 33 w | 100.0 |
| 891009 | 02 | 01 | 04 | 01 | 01 | 4 | 73 | 0.5 | 02 58 s | 085 48 w | 100.0 |
| 891009 | 05 | 04 | 07 | 02 | 12 | 2 | 56 | 4.6 | 02 46 s | 092 56 w | 100.0 |
| 891009 | 05 | 04 | 07 | 02 | 12 | 2 | 67 | 0.4 | 02 48 s | 092 46 s | 100.0 |
| 891009 | 05 | 04 | 07 | 02 | 12 | 2 | 01 | 0.2 | 02 46 s | 093 59 w | 100.0 |
| 891010 | 02 | 02 | 01 | 03 | 01 | 4 | 73 | 0.5 | 02 38 s | 096 38 w | 100.0 |
| 891010 | 02 | 02 | 01 | 03 | 01 | 99 | 3.0 | 02 36 s | 096 58 w | 100.0 | |
| 891010 | 02 | 01 | 03 | 01 | 03 | 05 | 67 | 4.9 | 02 42 s | 096 41 w | 100.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | |
|---|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|---------------|----------------------|-------|-------|
| species: STRIPED DOLPHIN (S. COERULEOALBA) | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est | | |
| ymd | ymd | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best low | | |
| 891010 | 03 | 03 | 06 | 2 | 05 | 5.6 | 02 44 S | 096 50 W | 45.0 | 155.0 | 112.0 | | |
| 891010 | 04 | 02 | 07 | 2 | 05 | 4.6 | 02 38 S | 096 56 W | 100.0 | 117.0 | 92.0 | | |
| 891010 | 05 | 01 | 08 | 2 | 05 | 3.7 | 02 36 S | 096 58 W | 100.0 | 80.0 | 60.0 | | |
| 891010 | 06 | 04 | 12 | 3 | 05 | 5.1 | 02 33 S | 097 13 W | 100.0 | 180.0 | 142.0 | | |
| 891010 | 09 | 04 | 18 | 3 | 05 | 0.7 | 02 29 S | 098 05 W | 100.0 | 0.0* | 15.0 | | |
| 891011 | 07 | 01 | 07 | 3 | 05 | 9.9 | 02 23 S | 101 40 W | 100.0 | 20.0 | 17.0 | | |
| 891013 | 01 | 02 | 01 | 4 | 05 | 2.2 | 02 09 S | 106 40 W | 100.0 | 0.0* | 10.0 | | |
| 891013 | 02 | 10 | 03 | 12 | 06 | 5.1 | 02 07 S | 107 32 W | 100.0 | 31.0 | 18.0 | | |
| 891013 | 03 | 03 | 04 | 12 | 01 | 45 | 01 51 | 107 50 W | 100.0 | 20.0 | 22.0 | | |
| 891015 | 04 | 05 | 04 | 12 | 01 | 1.5 | 02 02 S | 113 52 W | 100.0 | 33.0 | 22.0 | | |
| 891016 | 01 | 01 | 01 | 3 | 05 | 1.0 | 02 05 S | 116 05 W | 100.0 | 148.0 | 105.0 | | |
| 891023 | 01 | 01 | 01 | 5 | 05 | 9.9 | 01 14 S | 107 36 W | 100.0 | 140.0 | 110.0 | | |
| 891026 | 02 | 07 | 03 | 06 | 05 | 45 | 0.5 | 05 30 S | 097 18 W | 100.0 | 192.0 | 121.0 | |
| 891026 | 02 | 04 | 01 | 02 | 01 | 45 | 0.1 | 04 24 S | 095 01 W | 100.0 | 78.0 | 60.0 | |
| 891027 | 05 | 06 | 04 | 05 | 04 | 22 | 0.8 | 04 09 S | 094 36 W | 100.0 | 15.0 | 12.0 | |
| 891028 | 02 | 16 | 04 | 03 | 01 | 74 | 0.9 | 02 50 S | 091 54 W | 100.0 | 127.0 | 110.0 | |
| 891031 | 02 | 02 | 01 | 4 | 05 | 0.5 | 03 19 N | 087 21 W | 33.5 | 62.0 | 47.0 | | |
| 891031 | 04 | 03 | 04 | 05 | 05 | 45 | 0.9 | 03 44 N | 087 20 W | 100.0 | 0.0* | 12.0 | |
| 891031 | 04 | 05 | 05 | 05 | 05 | 22 | 0.9 | 03 50 N | 087 22 W | 100.0 | 12.0 | 5.0 | |
| 891031 | 01 | 09 | 03 | 08 | 03 | 5 | 05 | 1.7 | 06 06 N | 086 42 W | 100.0 | 0.0* | 6.0 |
| 89109 | 05 | 04 | 10 | 11 | 02 | 1 | 99 | 1.9 | 09 10 N | 087 45 W | 100.0 | 39.0 | 33.0 |
| 891113 | 05 | 02 | 08 | 03 | 02 | 4 | 74 | 0.2 | 00 04 N | 094 24 W | 100.0 | 120.0 | 90.0 |
| 891114 | 01 | 01 | 01 | 03 | 03 | 3 | 74 | 0.2 | 01 21 S | 094 15 W | 100.0 | 153.0 | 130.0 |
| 891114 | 01 | 01 | 10 | 03 | 01 | 4 | 51 | 1.3 | 01 57 S | 094 14 W | 100.0 | 45.0 | 30.0 |
| 891114 | 06 | 02 | 07 | 10 | 01 | 3 | 01 | 0.2 | 01 17 S | 094 18 W | 100.0 | 275.0 | 223.0 |
| 891115 | 03 | 09 | 07 | 07 | 04 | 74 | 5.2 | 01 52 S | 094 13 W | 100.0 | 85.0 | 72.0 | |
| 891116 | 01 | 01 | 01 | 4 | 01 | 0.1 | 0.0 | 05 03 S | 095 00 W | 100.0 | 0.0* | 40.0 | |
| 891116 | 03 | 03 | 03 | 4 | 05 | 51 | 3.0 | 04 36 S | 096 31 W | 100.0 | 362.0 | 233.0 | |
| 891116 | 03 | 03 | 03 | 4 | 05 | 0.8 | 04 19 S | 097 27 W | 75.0 | 275.0 | 243.0 | | |
| 891116 | 05 | 01 | 04 | 11 | 01 | 4 | 22 | 0.9 | 04 20 S | 097 42 W | 100.0 | 65.0 | 50.0 |
| 891117 | 02 | 01 | 05 | 4 | 05 | 51 | 1.1 | 03 27 S | 100 40 W | 100.0 | 65.0 | 46.0 | |
| 891118 | 03 | 02 | 02 | 5 | 05 | 51 | 2.2 | 02 45 S | 102 58 W | 100.0 | 65.0 | 50.0 | |
| 891118 | 03 | 07 | 03 | 4 | 45 | 4.1 | 02 45 S | 103 19 W | 100.0 | 92.0 | 70.0 | | |
| 891118 | 04 | 02 | 04 | 4 | 51 | 0.8 | 02 30 S | 103 23 W | 100.0 | 117.0 | 85.0 | | |
| 891118 | 05 | 02 | 05 | 4 | 4 | 74 | 0.2 | 02 29 S | 103 36 W | 100.0 | 215.0 | 187.0 | |
| 891118 | 05 | 02 | 06 | 4 | 01 | 4 | 0.1 | 02 29 S | 103 36 W | 100.0 | 86.0 | 230.0 | |
| 891118 | 06 | 03 | 07 | 03 | 01 | 45 | 2.4 | 02 22 S | 103 51 W | 100.0 | 80.0 | 70.0 | |
| 891119 | 02 | 04 | 03 | 4 | 45 | 4.3 | 01 36 S | 106 45 W | 100.0 | 273.0 | 230.0 | | |
| 891119 | 04 | 05 | 05 | 3 | 45 | 3.4 | 01 28 S | 107 16 W | 100.0 | 0.0* | 5.0 | | |
| 891119 | 08 | 01 | 07 | 3 | 45 | 5.2 | 01 18 S | 107 53 W | 100.0 | 0.0* | 11.0 | | |
| 891119 | 08 | 01 | 03 | 2 | 45 | 2.2 | 00 51 S | 109 23 W | 100.0 | 50.0 | 39.0 | | |
| 891120 | 02 | 03 | 06 | 3 | 45 | 0.8 | 00 48 W | 109 44 W | 100.0 | 125.0 | 148.0 | | |
| 891121 | 02 | 06 | 01 | 5 | 01 | 0.1 | 00 32 N | 114 05 W | 100.0 | 0.0* | 31.0 | | |
| 891123 | 05 | 15 | 10 | 03 | 02 | 01 | 5.6 | 01 56 N | 122 39 W | 100.0 | 0.0* | 12.0 | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-------|-------|--------------|--------|----------|-------|----------|-----------|---------------|----------------------|
| species: STRIPED DOLPHIN (S. COERULEOALBA) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymoddy | number | horz. | vert. | number | by | dist. | (km) | deg min | deg min | (% of school) | best low |
| 891125 | 01 | 5 | 05 | 0.0 | 02 | 53 | n | 124 29 | w | 100.0 | 100.0 |
| | | | | | | | | | | | 92.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|-------|--------------|--------|----------|-------|------------|-----------|---------------|----------------------|
| species: ROUGH-TOOTED DOLPHIN (STENOBREDANENSIS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymddy | | | | number | vert. | number | by | dist. (km) | deg min | (% of school) | best low |
| | | | | horz. | | | | | deg min | | |
| 890807 | 06 | 03 | 02 | 09 | 01 | 06 | 01 | 0.5 | 0.5 | 0.9 | 53 n |
| 890907 | | | | | | | | 67 | 0.1 | 0.4 | 56 n |
| 890909 | | | | 04 | | 04 | | 99 | 0.1 | 0.5 | 138 25 w |
| 890910 | | | | 05 | | 05 | | 73 | 0.2 | 0.6 | 132 43 w |
| 891011 | 02 | 11 | 05 | 12 | 12 | 05 | 05 | 0.5 | 0.7 | 0.6 | 15 n |
| 891017 | 06 | 04 | 04 | 06 | 01 | 06 | 01 | 22 | 0.6 | 0.2 | 28 s |
| 891117 | 01 | 06 | 01 | | | 01 | | 05 | 0.9 | 0.3 | 01 s |
| | | | | | | | | | | | 101 02 w |
| | | | | | | | | | | | 120 02 v |
| | | | | | | | | | | | 100 08 w |
| | | | | | | | | | | | 100 00 |
| | | | | | | | | | | | 112 46 w |
| | | | | | | | | | | | 138 25 w |
| | | | | | | | | | | | 130 35 w |
| | | | | | | | | | | | 42.5 |
| | | | | | | | | | | | 100.0 |
| | | | | | | | | | | | 100.0 |
| | | | | | | | | | | | 11.0 |
| | | | | | | | | | | | 24.0 |
| | | | | | | | | | | | 20.0 |
| | | | | | | | | | | | 1.0 |
| | | | | | | | | | | | 3.0 |
| | | | | | | | | | | | 5.0 |
| | | | | | | | | | | | 4.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--|--------|-------|-------|--------------|--------|------------|---------|----------|---------------|------------|----------------------|
| species: "LONG-SNOUTED WHITEBELLY" (DELPHINUS DELPHINUS SUBSP. ?) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/day | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 891206 | | 04 | 08 | 02 | 1 | 45 | 6.6 | 30 49 n | 116 31 w | 100.0 | 1647.0 |
| | | | | | | | | | | | 1283.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|---|--------|-------|-------|--------------|------------|----------|---------|----------|---------------|------------|------------------|--------|
| species: "SHORT-SNOUTED WHITEBELLY" (DELPHINUS DELPHIS SUBSP. ?) | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est |
| yr/mo/day | number | vert. | horz. | number | dist. (km) | deg min | deg min | deg min | (% of school) | best | low | high |
| 890801 | 01 | 03 | 01 | 09 | 03 | 4 | 71 | 0.0 | 22 51 n | 115 52 w | 65.7 | 100.0 |
| 890804 | 07 | 01 | 04 | 01 | 02 | 2 | 67 | 0.4 | 15 03 n | 115 28 w | 100.0 | 84.0 |
| 890923 | 01 | 01 | 03 | 01 | 04 | 4 | 99 | 0.4 | 00 09 n | 094 18 w | 100.0 | 73.0 |
| 890923 | 01 | 01 | 01 | 01 | 02 | 4 | 07 | 0.8 | 00 13 n | 094 25 w | 100.0 | 282.0 |
| 890923 | 02 | 01 | 02 | 01 | 02 | 4 | 07 | 0.2 | 00 10 n | 094 21 w | 100.0 | 127.0 |
| 890923 | 03 | 01 | 01 | 04 | 01 | 4 | 71 | 3.1 | 00 08 n | 094 17 w | 100.0 | 135.0 |
| 890923 | 03 | 03 | 06 | 05 | 06 | 5 | 71 | 3.2 | 00 04 s | 093 52 w | 100.0 | 155.0 |
| 890923 | 04 | 03 | 02 | 07 | 07 | 5 | 67 | 1.6 | 00 07 s | 093 41 w | 100.0 | 137.0 |
| 890923 | 05 | 02 | 07 | 05 | 05 | 5 | 67 | 1.5 | 00 05 s | 084 57 w | 100.0 | 910.0 |
| 890928 | 04 | 03 | 04 | 03 | 04 | 5 | 56 | 0.3 | 04 57 s | 084 50 w | 100.0 | 615.0 |
| 890928 | 05 | 01 | 06 | 05 | 05 | 5 | 55 | 0.3 | 04 53 s | 084 44 w | 100.0 | 547.0 |
| 890928 | 06 | 01 | 07 | 05 | 05 | 5 | 71 | 0.0 | 03 21 s | 082 44 w | 100.0 | 359.0 |
| 890928 | 06 | 01 | 02 | 04 | 04 | 4 | 56 | 2.3 | 03 08 s | 082 26 w | 100.0 | 297.0 |
| 890929 | 01 | 01 | 02 | 03 | 03 | 3 | 71 | 5.5 | 02 54 s | 082 00 w | 100.0 | 453.0 |
| 890929 | 03 | 05 | 03 | 04 | 04 | 3 | 73 | 0.7 | 02 37 s | 081 43 w | 100.0 | 270.0 |
| 890929 | 05 | 03 | 04 | 03 | 04 | 4 | 56 | 0.7 | 02 37 s | 081 43 w | 100.0 | 175.0 |
| 890929 | 07 | 01 | 06 | 01 | 06 | 3 | 01 | 0.8 | 02 41 s | 082 38 w | 100.0 | 572.0 |
| 891006 | 01 | 01 | 01 | 01 | 01 | 3 | 45 | 4.1 | 02 29 s | 082 56 w | 100.0 | 473.0 |
| 891006 | 02 | 06 | 04 | 04 | 04 | 3 | 22 | 0.8 | 02 53 s | 085 51 w | 100.0 | 45.0 |
| 891007 | 02 | 01 | 02 | 04 | 04 | 4 | 22 | 0.3 | 02 58 s | 087 02 w | 100.0 | 10.0* |
| 891007 | 04 | 04 | 04 | 04 | 04 | 4 | 45 | 5.4 | 02 54 s | 090 05 w | 100.0 | 73.0 |
| 891008 | 03 | 05 | 05 | 05 | 05 | 4 | 45 | 3.9 | 02 47 s | 093 21 w | 100.0 | 58.0 |
| 891009 | 02 | 04 | 04 | 04 | 04 | 01 | 45 | 4.3 | 02 48 s | 094 07 w | 100.0 | 13.0 |
| 891009 | 06 | 04 | 09 | 09 | 09 | 3 | 45 | 3.2 | 01 34 s | 089 42 w | 100.0 | 3100.0 |
| 891029 | 01 | 11 | 01 | 01 | 01 | 3 | 74 | 0.1 | 01 20 s | 089 18 w | 100.0 | 143.0 |
| 891029 | 04 | 01 | 05 | 05 | 05 | 3 | 74 | 0.1 | 01 13 s | 089 00 w | 100.0 | 570.0 |
| 891029 | 05 | 07 | 06 | 07 | 06 | 3 | 05 | 0.5 | 03 19 n | 087 21 w | 100.0 | 443.0 |
| 891031 | 02 | 02 | 01 | 01 | 04 | 4 | 05 | 0.5 | 03 19 n | 087 21 w | 16.5 | 743.0 |
| 891110 | 03 | 03 | 03 | 02 | 02 | 6 | 99 | 0.2 | 08 00 n | 089 48 w | 100.0 | 643.0 |
| 891113 | 04 | 21 | 07 | 03 | 02 | 5 | 45 | 0.4 | 00 12 n | 094 25 w | 100.0 | 47.0 |
| 891113 | 06 | 03 | 09 | 03 | 03 | 4 | 45 | 1.0 | 00 07 s | 094 24 w | 100.0 | 366.0 |
| 891114 | 04 | 02 | 06 | 10 | 02 | 4 | 05 | 0.3 | 01 37 s | 094 17 w | 100.0 | 311.0 |
| 891114 | 08 | 06 | 12 | 03 | 01 | 4 | 51 | 1.0 | 02 30 s | 094 08 w | 100.0 | 75.0 |
| 891114 | 10 | 01 | 14 | 03 | 02 | 4 | 05 | 2.6 | 02 50 s | 094 09 w | 100.0 | 335.0 |
| 891129 | 01 | 15 | 01 | 02 | 02 | 5 | 01 | 0.1 | 11 01 n | 123 08 w | 100.0 | 100.0 |
| | | | | | | | | | | | | 0.0* |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|---------------|----------------------|
| species: BOTTLENOSED DOLPHIN (TURSIOPS TRUNCATUS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/ | day | number | vert. | horz. | number | by | dist. (km) | deg min | deg min | (% of school) | best |
| year | month | day | horz. | vert. | number | by | dist. | min | min | best | low |
| 890802 | 06 | 02 | 07 | 01 | 02 | 3 | 55 | 0.5 | 18 52 n | 114 09 w | 100.0 |
| 890804 | 08 | 02 | 05 | 01 | 02 | 2 | 55 | 0.9 | 14 59 n | 115 32 w | 100.0 |
| 890819 | 01 | 09 | 01 | 07 | 01 | 4 | 73 | 2.3 | 10 52 n | 134 25 w | 100.0 |
| 890919 | 03 | 03 | 01 | 04 | 01 | 4 | 07 | 2.0 | 02 38 n | 104 38 w | 104.3 |
| 890924 | 04 | 01 | 04 | 01 | 01 | 4 | 73 | 0.5 | 01 14 s | 091 13 w | 54.0 |
| 890924 | 07 | 07 | 01 | 03 | 01 | 3 | 71 | 0.3 | 01 05 s | 090 50 w | 100.0 |
| 890924 | 08 | 08 | 01 | 04 | 01 | 4 | 73 | 1.0 | 01 03 s | 090 48 w | 100.0 |
| 890924 | 09 | 09 | 01 | 04 | 01 | 4 | 73 | 0.6 | 01 02 s | 090 43 w | 100.0 |
| 890924 | 06 | 07 | 08 | 03 | 01 | 3 | 51 | 5.3 | 03 00 s | 084 12 w | 67.3 |
| 891006 | 06 | 07 | 08 | 04 | 01 | 4 | 01 | 0.0 | 02 54 s | 089 48 w | 100.0 |
| 891008 | 02 | 02 | 04 | 01 | 01 | 2 | 01 | 0.3 | 02 36 s | 096 35 w | 32.7 |
| 891010 | 01 | 01 | 01 | 01 | 01 | 4 | 45 | 1.4 | 02 45 s | 096 47 w | 6.0 |
| 891010 | 03 | 01 | 04 | 02 | 02 | 2 | 05 | 5.6 | 02 44 s | 096 50 w | 23.0 |
| 891010 | 03 | 03 | 06 | 02 | 02 | 2 | 22 | 1.1 | 02 05 s | 117 02 w | 0.3 |
| 891016 | 04 | 04 | 12 | 02 | 12 | 4 | 51 | 1.4 | 03 14 s | 118 35 w | 15.0 |
| 891019 | 02 | 13 | 02 | 12 | 12 | 5 | 74 | 0.3 | 03 15 s | 118 35 w | 10.3 |
| 891019 | 03 | 01 | 03 | 01 | 01 | 01 | 45 | 1.1 | 04 08 s | 113 42 w | 34.0 |
| 891021 | 03 | 06 | 02 | 01 | 01 | 3 | 51 | 1.6 | 01 30 s | 089 45 w | 100.0 |
| 891029 | 02 | 01 | 02 | 01 | 01 | 01 | 74 | 1.9 | 05 15 s | 094 22 w | 40.0 |
| 891115 | 02 | 18 | 05 | 09 | 12 | 4 | 01 | 2.1 | 03 05 s | 101 31 w | 61.7 |
| 891117 | 06 | 03 | 09 | 11 | 03 | 5 | 51 | 0.3 | 02 18 s | 104 13 w | 0.7 |
| 891118 | 08 | 01 | 10 | 11 | 02 | 5 | 51 | 2.8 | 02 13 s | 104 32 w | 47.5 |
| 891118 | 10 | 04 | 13 | 11 | 03 | 4 | 45 | 0.5 | 27 55 n | 115 22 w | 100.0 |
| 891205 | 03 | 03 | 04 | 09 | 02 | 02 | | | | | 0.0* |

species code: 18

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-------|-------|--------------|--------|------------|---------|----------|---------------|------------|----------------------|
| species: RISSO'S DOLPHIN (GRAMMUS GRISEUS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymd | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 890803 | 05 | 08 | 06 | 01 | 02 | 2 | 71 | 1.7 | 16 52 n | 113 02 w | 100.0 27.0 |
| 890910 | 05 | 04 | 05 | 05 | 04 | 4 | 73 | 0.9 | 06 15 n | 130 35 w | 100.0 9.0 |
| 890910 | 03 | 05 | 08 | 08 | 01 | 5 | 73 | 0.2 | 06 15 n | 130 35 w | 7.5 24.0 |
| 890913 | 02 | 08 | 02 | 12 | 01 | 5 | 71 | 1.7 | 06 53 n | 129 48 w | 100.0 0.0* |
| 890913 | 02 | 08 | 02 | 12 | 01 | 5 | 73 | 0.5 | 04 22 n | 121 59 w | 100.0 1.0 |
| 890924 | 06 | 01 | 01 | 01 | 01 | 4 | 73 | 0.3 | 01 10 s | 091 03 w | 100.0 10.0 |
| 890928 | 01 | 02 | 02 | 02 | 02 | 5 | 55 | 2.2 | 05 19 s | 085 23 w | 100.0 30.0 |
| 890928 | 02 | 03 | 02 | 03 | 02 | 5 | 71 | 1.0 | 05 16 s | 085 19 w | 100.0 4.0 |
| 890928 | 03 | 02 | 03 | 02 | 03 | 5 | 55 | 0.5 | 05 13 s | 085 14 w | 100.0 4.0 |
| 890928 | 08 | 05 | 09 | 09 | 04 | 4 | 56 | 0.8 | 04 42 s | 084 27 w | 100.0 0.0* |
| 891008 | 03 | 07 | 08 | 08 | 03 | 3 | 22 | 0.5 | 02 54 s | 090 10 w | 100.0 10.0 |
| 891010 | 07 | 04 | 14 | 12 | 01 | 3 | 45 | 0.5 | 02 29 s | 097 31 w | 100.0 8.0 |
| 891010 | 09 | 02 | 16 | 02 | 16 | 3 | 05 | 0.3 | 02 29 s | 097 56 w | 100.0 6.0 |
| 891016 | 03 | 04 | 02 | 06 | 02 | 4 | 45 | 0.9 | 02 02 s | 116 28 w | 100.0 6.0 |
| 891027 | 06 | 02 | 07 | 06 | 02 | 5 | 05 | 0.1 | 04 07 s | 094 29 w | 100.0 3.0 |
| 891029 | 03 | 06 | 03 | 04 | 01 | 3 | 74 | 0.2 | 01 23 s | 089 25 w | 100.0 4.0 |
| 891029 | 06 | 01 | 07 | 07 | 03 | 3 | 74 | 0.1 | 01 09 s | 088 50 w | 100.0 11.0 |
| 891031 | 02 | 06 | 02 | 03 | 05 | 5 | 01 | 1.3 | 03 35 n | 087 19 w | 100.0 2.0 |
| 891031 | 03 | 02 | 03 | 02 | 03 | 5 | 74 | 0.0 | 03 40 n | 087 19 w | 100.0 8.0 |
| 891113 | 04 | 20 | 06 | 02 | 05 | 45 | 6.3 | 0.0 | 01 15 n | 094 25 w | 100.0 5.0 |
| 891117 | 01 | 15 | 04 | 02 | 04 | 22 | 0.3 | 03 27 s | 100 39 w | 100.0 0.0* | 100.0 2.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--|--------|-------|-------|--------------|--------|-----------|---------|-----------|---------------|------------|----------------------|
| species: PACIFIC WHITE-SIDED DOLPHIN (LAGENORHYNCHUS OBliquidens) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | number | horz. | vert. | number | by | dist.(km) | deg min | deg min | (% of school) | best | low |
| 891205 | 02 | 04 | 03 | 09 | 02 | 3 | 74° 01' | 27° 50' n | 115° 16' w | 100.0 | 30.0 |
| | | | 06 | | 1 | | 2.7 | 30° 55' n | 116° 30' w | 100.0 | 192.0 |
| 891206 | | | | | | | | | | | 162.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | | |
|--|--------|-----|-------|--------------|--------|----------|--------|----------|------------|------------|----------|---------------|-------|-------|
| species: FRASER'S DOLPHIN (LAGENODELPHIS HOSEI) | | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean | size est | | |
| ymody | | | | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | | |
| 890907 | | | | 10 | 02 | 04 | 4 | 73 | 0.9 | 04 58 n | 138 14 w | 69.0 | 160.0 | 143.0 |
| 890920 | 02 | | | | 02 | 02 | 4 | 55 | 1.3 | 02 38 n | 102 28 w | 100.0 | 263.0 | 232.0 |
| 891015 | | | | | 02 | 03 | 3 | 22 | 1.7 | 02 03 s | 112 56 w | 15.0 | 507.0 | 428.0 |
| 891017 | 05 | | | | 02 | 03 | 01 | 05 | 0.8 | 02 04 s | 119 53 w | 100.0 | 87.0 | 65.0 |
| 891123 | 01 | | | | 01 | 01 | 08 | 01 | 5 | 01 50 n | 121 40 w | 100.0 | 570.0 | 475.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|--|--------|-------|-------|--------------|--------|------------|---------|----------|-----------|---------------|----------------------|-------|
| species: MELON-HEADED WHALE (PEPONOCEPHALA ELECTRA) | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est | |
| ymd | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | deg min | (% of school) | best low | |
| 891015 | 02 | 09 | 02 | 01 | 05 | 01 | 3 | 22 | 1° 7' | 02° 03' S | 112° 56' W | |
| 891203 | | | 01 | | | | 51 | 2.6 | 22° 36' N | 118° 37' W | 85.0 | 507.0 |
| | | | | | | | | | | 100.0 | 315.0 | |
| | | | | | | | | | | | 428.0 | |
| | | | | | | | | | | | 260.0 | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|-------|--------------|--------|----------|-------|-----------|-----------|------------|----------------------|
| species: PYGMY KILLER WHALE (FERESA ATTENUATA) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | | number | vert. | number | by | dist.(km) | deg min | deg min | (% of school) |
| | | | | | horz. | | | | | best | low |
| 891119 | 03 | 02 | 04 | | 3 | 51 | 1.0 | 01 32 S | 106 58 W | 100.0 | 11.0 |
| | | | | | | | | | | | 10.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|-------|--------------|--------|----------|------------|----------|-----------|---------------|----------------------|
| species: FALSE KILLER WHALE (PSEUDORCA CRASSIDENS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | | number | vert. | number | dist. (km) | deg min | deg min | (% of school) | best low |
| | | | | horz. | | | | | | | |
| 890822 | 01 | 01 | 01 | 11 | 02 | 4 | 56 | 0° 4 | 11° 48' n | 141° 44' w | 100.0 3.0 |
| 890822 | 04 | 10 | 03 | 09 | 02 | 5 | 71 | 0° 7 | 12° 43' n | 143° 06' w | 100.0 22.0 |
| 890910 | 04 | 10 | 09 | 09 | 02 | 5 | 73 | 0° 1 | 07° 21' n | 129° 32' w | 100.0 5.0 |
| 891118 | 07 | 05 | 09 | 11 | 02 | 5 | 51 | 1° 9 | 02° 18' s | 104° 11' w | 69.7 39.0 |
| 891118 | 08 | 01 | 10 | 11 | 02 | 5 | 51 | 0° 3 | 02° 18' s | 104° 13' w | 2.7 35.0 |
| 891118 | 09 | 01 | 11 | 11 | 02 | 5 | 45 | 0° 3 | 02° 16' s | 104° 18' w | 100.0 0.0* |
| 891205 | 01 | 15 | 02 | 05 | 02 | 4 | 45 | 3° 2 | 27° 39' n | 115° 05' w | 100.0 26.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | |
|--|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|------------|----------------------|------|------|
| species: PILOT WHALE (GLOBICEPHALA SP.) | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est | | |
| yr\mo\dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | | |
| 890924 | | | 04 | 01 | 4 | 73 | 0.5 | 01 14 S | 091 13 W | 46.0 | 50.0 | | |
| 890924 | | | 05 | | 5 | 73 | 0.1 | 01 13 S | 091 10 W | 100.0 | 25.0 | | |
| 890927 | | | 01 | | 5 | 73 | 2.3 | 04 14 S | 087 03 W | 100.0 | 0.0* | | |
| 891006 | 03 | 05 | 06 | 08 | 3 | 51 | 0.2 | 03 01 S | 083 21 W | 22.7 | 97.0 | | |
| 891006 | 06 | 07 | 08 | 08 | 3 | 51 | 5.3 | 02 36 S | 084 12 W | 32.7 | 37.0 | | |
| 891010 | 01 | 01 | 01 | 01 | 2 | 01 | 0.3 | 02 36 S | 096 35 W | 0.7 | 64.0 | | |
| 891010 | 03 | 01 | 04 | | 2 | 45 | 1.4 | 02 45 S | 096 47 W | 94.0 | 15.0 | | |
| 891010 | 03 | 03 | 06 | | 2 | 05 | 5.6 | 02 44 S | 096 50 W | 32.0 | 112.0 | | |
| 891011 | | | 01 | | 3 | 99 | 0.0 | 02 31 S | 099 40 W | 100.0 | 13.0 | | |
| 891011 | 02 | 12 | 06 | | 3 | 45 | 2.7 | 02 27 S | 101 06 W | 100.0 | 0.0* | | |
| 891016 | 03 | 05 | 03 | | 06 | 02 | 0.5 | 02 02 S | 116 33 W | 100.0 | 12.0 | | |
| 891016 | 04 | 04 | 04 | | 12 | 12 | 2.2 | 02 05 S | 117 02 W | 1.0 | 1421.0 | | |
| 891017 | 04 | 02 | 02 | | 06 | 02 | 5 | 02 06 S | 119 47 W | 100.0 | 28.0 | | |
| 891017 | 07 | 05 | 06 | | 11 | 01 | 0.5 | 02 00 S | 120 45 W | 100.0 | 23.0 | | |
| 891019 | 02 | 01 | 01 | | 12 | 02 | 5 | 03 10 S | 119 13 W | 100.0 | 9.0 | | |
| 891019 | 02 | 13 | 02 | | 12 | 5 | 51 | 01 14 S | 118 35 W | 100.0 | 5.0 | | |
| 891019 | 03 | 01 | 03 | | 5 | 74 | 0.3 | 03 15 S | 118 35 W | 51.7 | 18.0 | | |
| 891020 | 04 | | 02 | | 5 | 45 | 0.6 | 03 50 S | 115 42 W | 89.7 | 19.0 | | |
| 891021 | 03 | | 02 | | 05 | 02 | 4.5 | 01 11 S | 08 08 S | 100.0 | 0.0* | | |
| 891027 | | | 11 | | 01 | 01 | 0.1 | 04 08 S | 113 42 W | 66.0 | 13.0 | | |
| 891027 | 06 | 01 | 06 | | 4 | 74 | 0.0 | 03 57 S | 094 11 W | 28.5 | 21.0 | | |
| 891027 | 06 | 01 | 06 | | 5 | 45 | 1.2 | 04 08 S | 094 32 W | 100.0 | 7.0 | | |
| 891027 | 06 | 02 | 08 | | 06 | 02 | 0.2 | 04 06 S | 094 28 W | 100.0 | 5.0 | | |
| 891114 | 03 | 02 | 05 | 10 | 02 | 4 | 51 | 4.5 | 01 30 S | 094 13 W | 100.0 | 28.0 | |
| 891114 | 06 | 02 | 08 | 10 | 01 | 4 | 74 | 3.8 | 01 52 S | 094 13 W | 100.0 | 15.0 | |
| 891114 | 09 | 02 | 13 | 03 | 02 | 4 | 74 | 2.3 | 02 45 S | 094 09 W | 100.0 | 23.0 | |
| 891115 | 01 | | 04 | | 4 | 05 | 0.4 | 04 27 S | 094 03 W | 100.0 | 18.0 | | |
| 891115 | 02 | 18 | 05 | | 09 | 12 | 4 | 74 | 1.9 | 05 15 S | 094 22 W | 60.0 | 26.0 |
| 891117 | 06 | 03 | 09 | 11 | 03 | 5 | 01 | 2.1 | 03 05 S | 101 31 W | 38.3 | 40.0 | |
| 891118 | 07 | 05 | 09 | 11 | 02 | 5 | 51 | 1.9 | 02 18 S | 104 11 W | 30.3 | 28.0 | |
| 891118 | 08 | 01 | 10 | 11 | 02 | 4 | 51 | 0.3 | 02 18 S | 104 13 W | 30.0 | 26.0 | |
| 891118 | 10 | | 13 | 11 | 03 | | | 2.8 | 02 13 S | 104 32 W | 35.0 | 22.0 | |
| | | | | | | | | | | | 32.0 | | |

species code: 34

Table 3. (continued)

Sightings by Species

| species: SHORT-FINNED PILOT WHALE (GLOBICEPHALA MACRORHYNCHUS) | | | | | | | | | | |
|---|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|-----------------------------|
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion (% of school) |
| year | mod | number | vert. | horz. | number | by | dist. (km) | deg min | deg min | mean |
| 890817 | 04 | 01 | 04 | 02 | 03 | 3 | 55 | 2.1 | 13 46 n | 129 40 w |
| 890819 | 04 | 03 | 04 | 01 | 01 | 4 | 73 | 0.2 | 10 03 n | 135 11 w |
| 890907 | 01 | 11 | 04 | 11 | 01 | 4 | 71 | 0.3 | 04 58 n | 138 14 w |
| 890907 | 01 | 06 | 06 | 06 | 01 | 4 | 56 | 3.5 | 04 55 n | 138 54 w |
| 890907 | 03 | 03 | 01 | 01 | 03 | 4 | 07 | 1.8 | 06 10 n | 130 41 w |
| 890910 | 01 | 04 | 03 | 02 | 02 | 4 | 73 | 0.8 | 06 14 n | 130 37 w |
| 890916 | 05 | 05 | 05 | 02 | 02 | 5 | 73 | 0.9 | 02 30 n | 112 53 w |
| 890919 | 03 | 01 | 03 | 01 | 02 | 4 | 07 | 2.0 | 02 38 n | 104 38 w |
| 891102 | 02 | 01 | 02 | 01 | 01 | 4 | 01 | 5.1 | 07 40 n | 085 53 w |
| | | | | | | | | | | 100.0 |
| | | | | | | | | | | 38.3 |
| | | | | | | | | | | 24.0 |
| | | | | | | | | | | 19.0 |
| | | | | | | | | | | 17.0 |
| | | | | | | | | | | 12.0 |

species code: 36

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-------|-------|--------------|--------|------------|---------|----------|---------------|------------|----------------------|
| species: KILLER WHALE (ORCINUS ORCA) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymd | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 890809 | 04 | 11 | 04 | 11 | 02 | 4 | 73 | 3°0 | 04 27 n | 108 26 w | 100.0 |
| 890821 | 07 | 01 | 06 | 03 | 04 | 2 | 56 | 0.6 | 11 04 n | 140 22 w | 100.0 |
| 890905 | 03 | 02 | 02 | 05 | 01 | 5 | 71 | 2.5 | 07 46 n | 144 53 w | 100.0 |
| 890922 | 03 | 02 | 02 | 02 | 01 | 4 | 56 | 4.3 | 01 16 n | 096 27 w | 100.0 |
| 891027 | 03 | 01 | 02 | 02 | 02 | 4 | 05 | 0.8 | 04 22 s | 094 59 w | 100.0 |
| 891116 | 02 | 12 | 02 | 12 | 02 | 4 | 51 | 1.0 | 04 22 s | 097 19 w | 100.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | species code: 46 | | | |
|--|--------|--------|-------|--------------|--------|----------|------------|----------|-----------|---------------|------------------|------------------|------|------|--|
| species: SPERM WHALE (PHYSETER MACROCEPHALUS) | | | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est | best | low | |
| ymd | ymd | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | | | | | |
| 890805 | 01 | 03 | 01 | 05 | 07 | 03 | 3 | 73 | 0.4 | 14 03 n | 116 59 w | 100.0 | 2.0 | 2.0 | |
| 890811 | 06 | 06 | 02 | 02 | 11 | 02 | 4 | 56 | 0.0 | 06 23 n | 114 10 w | 25.5 | 38.0 | 33.0 | |
| 890909 | 02 | 02 | 05 | 05 | 06 | 02 | 4 | 56 | 0.4 | 05 18 n | 133 23 w | 48.3 | 11.0 | 9.0 | |
| 890909 | 04 | 06 | 04 | 04 | 05 | 01 | 5 | 67 | 0.5 | 05 17 n | 132 16 w | 100.0 | 1.0 | 1.0 | |
| 890916 | 03 | 04 | 04 | 04 | 05 | 01 | 5 | 56 | 0.3 | 02 33 n | 113 07 w | 100.0 | 4.0 | 4.0 | |
| 890928 | 01 | 01 | 01 | 01 | 01 | 4 | 67 | 2.8 | 0.3 | 04 20 s | 083 56 w | 100.0 | 8.0 | 8.0 | |
| 890929 | 06 | 05 | 05 | 07 | 01 | 4 | 56 | 1.6 | 0.2 | 03 23 s | 082 46 w | 100.0 | 6.0 | 6.0 | |
| 891006 | 02 | 02 | 02 | 02 | 07 | 04 | 01 | 56 | 0.1 | 02 41 s | 081 49 w | 100.0 | 8.0 | 8.0 | |
| 891006 | 02 | 02 | 05 | 05 | 06 | 02 | 3 | 45 | 2.4 | 03 02 s | 083 28 w | 100.0 | 4.0 | 3.0 | |
| 891006 | 03 | 05 | 06 | 06 | 03 | 05 | 02 | 45 | 2.3 | 02 43 s | 082 44 w | 100.0 | 1.0 | 1.0 | |
| 891008 | 01 | 05 | 02 | 02 | 06 | 02 | 4 | 45 | 0.2 | 03 01 s | 083 21 w | 76.3 | 96.0 | 97.0 | |
| 891008 | 05 | 02 | 12 | 12 | 01 | 3 | 51 | 1.1 | 0.8 | 02 56 s | 089 21 w | 100.0 | 2.0 | 2.0 | |
| 891011 | 01 | 07 | 03 | 06 | 02 | 4 | 51 | 5.8 | 0.2 | 02 50 s | 091 08 w | 100.0 | 1.0 | 1.0 | |
| 891020 | 01 | 03 | 01 | 01 | 03 | 5 | 01 | 0.7 | 0.3 | 02 30 s | 100 08 w | 100.0 | 9.0 | 7.0 | |
| 891022 | 01 | 02 | 02 | 02 | 07 | 6 | 01 | 0.7 | 0.3 | 03 38 s | 116 57 w | 100.0 | 1.0 | 1.0 | |
| 891022 | 01 | 02 | 01 | 01 | 04 | 4 | 01 | 1.5 | 0.4 | 04 48 s | 110 19 w | 100.0 | 5.0 | 4.0 | |
| 891026 | 02 | 06 | 02 | 02 | 01 | 6 | 99 | 0.2 | 0.6 | 06 10 s | 098 49 w | 100.0 | 1.0 | 1.0 | |
| 891031 | 02 | 05 | 05 | 05 | 02 | 4 | 45 | 6.3 | 0.3 | 03 35 n | 087 19 w | 42.5 | 8.0 | 8.0 | |
| 891110 | 01 | 05 | 02 | 02 | 10 | 03 | 01 | 51 | 0.3 | 08 40 n | 089 21 w | 100.0 | 5.0 | 4.0 | |
| 891114 | 02 | 01 | 04 | 10 | 03 | 4 | 51 | 0.0 | 0.1 | 17 s | 094 18 w | 100.0 | 1.0 | 1.0 | |
| 891114 | 02 | 01 | 12 | 02 | 04 | 4 | 45 | 5.8 | 0.1 | 27 s | 094 14 w | 100.0 | 1.0 | 4.0 | |
| 891117 | 01 | 04 | 04 | 07 | 11 | 02 | 5 | 7.0 | 0.3 | 31 s | 100 31 w | 100.0 | 1.0 | 1.0 | |
| 891117 | 04 | 04 | 08 | 11 | 02 | 4 | 05 | 1.7 | 0.3 | 10 s | 101 00 w | 100.0 | 13.0 | 11.0 | |
| 891120 | 02 | 02 | 01 | 08 | 11 | 02 | 4 | 01 | 0.2 | 00 20 s | 110 59 w | 100.0 | 0.0* | 0.0* | |
| 891120 | 04 | 04 | 05 | 08 | 11 | 02 | 2 | 74 | 3.3 | 00 51 s | 109 23 w | 100.0 | 3.0 | 3.0 | |
| 891120 | 04 | 04 | 05 | 05 | 05 | 02 | 3 | 74 | 1.3 | 00 52 s | 109 31 w | 100.0 | 1.0 | 1.0 | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|-------|--------------|--------|----------|--------|----------|-----------|------------|----------------------|
| species: DWARF SPERM WHALE (KOGIA SIMUS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | | number | horz. | vert. | number | by | dist.(km) | deg min | deg min |
| 890810 | | 02 | | 5 | | 73 | 0.0 | 05 00 n | 110 03 w | 100.0 | 1.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|-----------------------------------|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|---------------|----------------------|
| species: BEAKED WHALE (ZIPHID) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | (% of school) | best low |
| 890821 | 06 | 02 | 04 | 11 | 02 | 3 | 55 | 0.3 | 10 55 n | 140 14 w | 100.0 1.0 |
| 890916 | 02 | 11 | 03 | 05 | 01 | 5 | 55 | 0.1 | 02 34 n | 113 16 w | 100.0 5.0 |
| 891027 | | | | | | | 99 | 0.2 | 04 11 s | 094 39 w | 100.0 2.0 |
| 891115 | 02 | 11 | 03 | | | 4 | 05 | 0.3 | 05 08 s | 094 10 w | 100.0 2.0 |
| 891118 | 07 | 02 | 08 | 10 | 01 | 5 | 05 | 0.3 | 02 21 s | 103 54 w | 100.0 1.0 |
| 891205 | 01 | 13 | 01 | 04 | 02 | 4 | 05 | 0.1 | 27 34 n | 115 08 w | 100.0 2.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-----|-------|--------------|--------|----------|------------|----------|-----------|---------------|----------------------|
| species: SOUTHERN BOTTLENOSED WHALE (HYPERODON PLANIFRONS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymddy | | | | number | vert. | number | dist. (km) | deg min | deg min | (% of school) | best low |
| 891113 | 01 | 04 | 01 | 09 | 02 | 3 | 22 | 3.1 | 01 33 n | 094 16 w | 100.0 13.0 11.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--|--------|-------|-------|--------------|--------|------------|---------|----------|---------------|------------|----------------------|
| species: UNID. MESOPLODONT (MESOPLODON SP.) | | | | | | | | | | | species code: 51 |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymddy | number | vert. | horz. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low |
| 890804 | 08 | 02 | 03 | 01 | 01 | 2 | 99 | 0.4 | 15 06 n | 115 24 w | 100.0 |
| 890806 | 08 | 02 | 05 | 01 | 01 | 2 | 07 | 0.5 | 11 18 n | 115 14 w | 100.0 |
| 890807 | 03 | 04 | 04 | 04 | 01 | 4 | 55 | 0.1 | 09 36 n | 112 12 w | 100.0 |
| 890811 | 03 | 07 | 02 | 04 | 01 | 5 | 73 | 0.1 | 06 03 n | 113 02 w | 100.0 |
| 891114 | 08 | 02 | 11 | 01 | 01 | 4 | 22 | 2.2 | 02 17 s | 094 10 w | 100.0 |
| 891124 | 02 | 05 | 01 | 07 | 02 | 5 | 05 | 1.0 | 01 57 n | 124 42 w | 100.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|---------------|----------------------|
| species: CUVIER'S BEAKED WHALE (ZIPIHIUS CAVIROSTRIS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | (% of school) | best |
| | | | | | | | | | deg min | low | high |
| 890806 | 07 | 04 | 05 | 12 | 2 | 71 | 0.4 | 115 20 w | 115 21 n | 100.0 | 3.0 |
| 890809 | 02 | 13 | 02 | 09 | 01 | 55 | 0.9 | 105 03 n | 108 39 w | 100.0 | 3.0 |
| 890821 | 03 | 05 | 03 | 05 | 01 | 73 | 0.6 | 103 36 n | 139 42 w | 100.0 | 2.0 |
| 890914 | 05 | 01 | 02 | 05 | 01 | 71 | 0.2 | 03 45 n | 118 51 w | 100.0 | 3.0 |
| 891007 | 03 | 17 | 03 | 12 | 4 | 51 | 0.1 | 02 57 s | 086 48 w | 100.0 | 1.0 |
| 891008 | 04 | 07 | 11 | | 3 | 45 | 0.4 | 02 51 s | 090 49 w | 100.0 | 4.0 |
| 891010 | | 10 | | | 2 | 99 | 0.3 | 02 33 s | 097 04 w | 100.0 | 1.0 |
| 891011 | 02 | 09 | 04 | 12 | 12 | 51 | 2.0 | 02 29 s | 100 49 w | 100.0 | 1.0 |
| 891012 | | 03 | | | 3 | 99 | 0.0 | 02 21 s | 103 28 w | 100.0 | 2.0 |
| 891022 | 02 | 02 | 05 | | 5 | 22 | 1.0 | 04 53 s | 110 48 w | 100.0 | 1.0 |
| 891109 | 01 | 04 | 03 | 07 | 02 | 05 | 0.1 | 09 22 n | 086 28 w | 100.0 | 3.0 |
| 891109 | 01 | 08 | 04 | 07 | 02 | 01 | 3.8 | 09 19 n | 086 50 w | 100.0 | 3.0 |
| 891109 | 01 | 14 | 06 | 08 | 01 | 22 | 1.0 | 09 16 n | 087 12 w | 100.0 | 2.0 |
| 891109 | 01 | 16 | 07 | 09 | 01 | 05 | 0.5 | 09 15 n | 087 15 w | 100.0 | 2.0 |
| 891113 | | 02 | 11 | 02 | 2 | 45 | 0.7 | 01 30 n | 094 14 w | 100.0 | 2.0 |
| 891203 | 03 | 05 | 02 | 06 | 02 | 5 | 0.5 | 22 52 n | 118 30 w | 100.0 | 2.0 |
| 891206 | | 02 | 04 | 02 | 2 | 45 | 0.3 | 30 39 n | 116 37 w | 100.0 | 1.0 |
| 891206 | | 08 | 02 | 05 | 1 | 01 | 4.6 | 30 50 n | 116 31 w | 100.0 | 1.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|--|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|---------------|------------------|-------|
| species: RORQUAL (BALAENOPTERA SP.) | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est |
| yr/mo/dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | (% of school) | best | low |
| 890913 | | 04 | 06 | 01 | 5 | 99 | 0.1 | 04 | 18 n | 121 26 w | 100.0 | 1.0 |
| 890914 | 06 | 01 | 03 | 05 | 01 | 4 | 07 | 0.3 | 03 42 n | 118 40 w | 100.0 | 2.0 |
| 890915 | 01 | 01 | 11 | 03 | 4 | 55 | 0.9 | 03 | 12 n | 117 03 w | 100.0 | 4.0 |
| 890918 | 02 | 06 | 02 | 02 | 5 | 55 | 1.4 | 02 | 19 n | 108 20 w | 100.0 | 1.0 |
| 890924 | | | | | 4 | 99 | 3.9 | 01 | 15 s | 091 19 w | 100.0 | 2.0 |
| 891009 | 04 | 01 | 05 | 06 | 01 | 4 | 22 | 6.5 | 02 49 s | 093 26 w | 100.0 | 1.0 |
| 891009 | 06 | 03 | 08 | 12 | 01 | 3 | 05 | 0.5 | 02 48 s | 094 05 w | 100.0 | 1.0 |
| 891011 | | | | | 02 | 03 | 05 | 0.3 | 02 31 s | 099 40 w | 100.0 | 1.0 |
| 891011 | | | | | 08 | 10 | 03 | 45 | 02 21 s | 101 40 w | 100.0 | 1.0 |
| 891015 | 07 | 01 | 05 | 11 | 03 | 3 | 05 | 0.5 | 02 00 s | 114 40 w | 80.0 | 5.0 |
| 891018 | | | | | 01 | 03 | 12 | 6 | 01 | 06 | 122 02 w | 100.0 |
| 891018 | | | | | 02 | 02 | 6 | 99 | 0.0 | 02 55 s | 120 31 w | 100.0 |
| 891021 | 02 | 02 | 01 | 01 | 02 | 5 | 51 | 0.1 | 04 11 s | 113 59 w | 100.0 | 1.0 |
| 891022 | 02 | 04 | 06 | 06 | 05 | 01 | 0.1 | 0.2 | 04 53 s | 110 39 w | 100.0 | 3.0 |
| 891023 | 01 | 05 | 02 | 05 | 01 | 5 | 45 | 0.0 | 05 17 s | 107 07 w | 100.0 | 1.0 |
| 891026 | 02 | 01 | 02 | 02 | 5 | 01 | 1.5 | 0.5 | 44 s | 097 42 w | 100.0 | 1.0 |
| 891118 | 10 | 03 | 12 | 11 | 03 | 4 | 45 | 2.2 | 02 13 s | 104 30 w | 100.0 | 3.0 |
| 891122 | 01 | 07 | 02 | 06 | 4 | 05 | 0.5 | 0.1 | 31 n | 117 14 w | 100.0 | 2.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--------------------------------------|--------|-----|-------|--------------|--------|----------|--------|----------|------------|---------------|----------------------|
| species: BRYDE'S WHALE (B. EDENI) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| yr\mody | | | | number | horz. | vert. | number | by | dist. (km) | deg min | |
| | | | | | | | | | | (% of school) | best low |
| 890907 | 03 | 10 | 07 | 06 | 01 | 4 | 71 | 0.5 | 04 55 n | 138 41 w | 100.0 1.0 |
| 890912 | 02 | 03 | 11 | 02 | 5 | 71 | 0.1 | 05 19 n | 125 15 w | 100.0 3.0 | |
| 890914 | 07 | 10 | 04 | 05 | 03 | 4 | 73 | 1.5 | 03 30 n | 118 12 w | 100.0 4.0 |
| 890918 | 06 | 01 | 04 | | 5 | | 67 | 1.0 | 02 20 n | 107 26 w | 100.0 1.0 |
| 891009 | 01 | 01 | 01 | | 3 | | 45 | 0.2 | 02 46 s | 092 47 w | 100.0 7.0 |
| 891015 | 07 | 01 | 05 | 11 | 03 | 3 | 05 | 0.9 | 02 00 s | 114 40 w | 20.0 5.0 |
| 891017 | 07 | 12 | 08 | 11 | 03 | 5 | 45 | 0.3 | 01 50 s | 121 12 w | 100.0 1.0 |
| 891113 | 03 | 01 | 03 | 08 | 02 | 3 | 01 | 1.4 | 01 23 n | 094 18 w | 100.0 2.0 |
| 891129 | 03 | 11 | 03 | | 4 | | 05 | 1.2 | 11 36 n | 122 26 w | 12.5 4.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | |
|-------------------------------------|--------|-------|-------|--------------|--------|-----------|---------|----------|---------------|------------|
| species: SEI WHALE (B. BOREALIS) | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion |
| ymd | number | horz. | vert. | number | by | dist.(km) | deg min | deg min | (% of school) | est |
| | | | | | | | | | best | low |
| 891129 | 03 | 11 | 03 | | 4 | 05 | 1.2 | 11 36 n | 122 26 w | 12.5 |
| | | | | | | | | | | 4.0 |
| | | | | | | | | | | 3.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--------------------------------------|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|---------------|----------------------|
| species: BLUE WHALE (B. MUSCULUS) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | parp. | latitude | longitude | proportion | mean school size est |
| yr/mo/dy | | | number | horz. | vert. | number | by | dist. (km) | deg min | (% of school) | best |
| | | | | | | | | | deg min | | low |
| 890924 | 01 | 07 | 03 | | | 4 | 99 | 2.6 | 01 16 S | 091 17 W | 100.0 |
| 890924 | 01 | 07 | 01 | | | 4 | 55 | 1.6 | 01 14 S | 091 19 W | 100.0 |
| 890928 | 07 | 01 | 08 | | | 5 | 73 | 0.2 | 04 51 S | 084 41 W | 100.0 |
| 891120 | 03 | 01 | 04 | | | 3 | 01 | 1.4 | 00 53 S | 109 28 W | 100.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|---|--------|-------|-------|--------------|--------|----------|-------|----------|-----------|---------------|----------------------|
| species: HUMPBACK WHALE (MEGAPTERA NOVAEANGLIAE) | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymd | number | horz. | vent. | number | by | dist. | (km) | deg min | deg min | (% of school) | best low |
| 891006 | 03 | 05 | 06 | 3 | 05 | 0.2 | 0.2 | 03 01 s | 083 21 w | 1.0 | 96.0 |
| 891206 | 02 | 03 | 01 | 02 | 1 | 4.3 | 4.3 | 30 32 n | 116 37 w | 50.0 | 2.0 |
| | | | | | | | | | | | 97.0 |
| | | | | | | | | | | | 2.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | |
|-------------------------------|--------|-----|--------|--------------|--------|----------|---------|------------|-----------|----------|---------------|------------|
| species: UNIDENTIFIED DOLPHIN | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | min | (% of school) | proportion |
| yr | mon | day | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best |
| | | | | | | | | | | | low | high |
| 890801 | 03 | 13 | 03 | 02 | 01 | 5 | 55 | 7.5 | 21 29 n | 115 56 w | 100.0 | 12.0 |
| 890802 | 01 | 03 | 01 | 10 | 03 | 3 | 07 | 0.8 | 19 46 n | 115 33 w | 100.0 | 12.0 |
| 890802 | 02 | 05 | 02 | 4 | 4 | 55 | 0.8 | 19 37 n | 115 16 w | 100.0 | 2.0 | |
| 890802 | 02 | 12 | 03 | 12 | 4 | 56 | 4.6 | 19 17 n | 114 48 w | 100.0 | 4.0 | |
| 890802 | 04 | 06 | 05 | 4 | 4 | 56 | 0.5 | 19 02 n | 114 17 w | 100.0 | 0.0* | |
| 890803 | 01 | 07 | 01 | 2 | 2 | 56 | 7.3 | 17 37 n | 112 29 w | 100.0 | 7.0 | |
| 890806 | 10 | 03 | 06 | 2 | 71 | 7.3 | 11 10 n | 114 54 w | 100.0 | 0.0* | | |
| 890807 | 01 | 16 | 01 | 4 | 71 | 2.3 | 0.9 | 54 n | 112 47 w | 100.0 | 1.0 | |
| 890807 | 04 | 04 | 05 | 06 | 02 | 3 | 56 | 0.5 | 09 32 n | 112 00 w | 97.0 | 150.0 |
| 890808 | 01 | 02 | 01 | 4 | 67 | 7.7 | 0.8 | 23 n | 110 55 w | 100.0 | 0.0* | |
| 890808 | 05 | 10 | 03 | 5 | 67 | 3.3 | 0.6 | 21 n | 113 53 w | 100.0 | 3.0 | |
| 890811 | 05 | 02 | 01 | 5 | 73 | 0.6 | 0.8 | 33 n | 119 21 w | 100.0 | 0.0* | |
| 890813 | 01 | 12 | 12 | 5 | 71 | 2.2 | 0.9 | 11 n | 121 14 w | 100.0 | 0.0* | |
| 890814 | 01 | 01 | 01 | 5 | 73 | 0.6 | 0.6 | 24 n | 121 33 w | 100.0 | 0.0* | |
| 890814 | 02 | 11 | 01 | 5 | 73 | 2.4 | 10 49 n | 123 57 w | 100.0 | 0.0* | | |
| 890815 | 06 | 02 | 01 | 11 | 01 | 71 | 5.5 | 12 35 n | 126 56 w | 100.0 | 2.0 | |
| 890816 | 02 | 01 | 02 | 3 | 02 | 55 | 0.0 | 13 26 n | 128 31 w | 100.0 | 82.0 | |
| 890817 | 01 | 01 | 01 | 4 | 4 | 55 | 5.0 | 13 23 n | 128 27 w | 5.7 | 167.0 | |
| 890817 | 04 | 01 | 04 | 3 | 55 | 2.1 | 13 46 n | 129 40 w | 41.5 | 4.0 | | |
| 890817 | 06 | 04 | 05 | 04 | 02 | 55 | 0.8 | 09 47 n | 146 49 w | 100.0 | 6.0 | |
| 890904 | 06 | 10 | 01 | 4 | 72 | 0.9 | 0.4 | 58 n | 138 14 w | 6.0 | 143.0 | |
| 890907 | 01 | 01 | 02 | 4 | 56 | 0.3 | 0.5 | 01 n | 137 02 w | 100.0 | 0.0* | |
| 890908 | 02 | 02 | 02 | 11 | 02 | 56 | 0.4 | 18 n | 133 23 w | 18.3 | 11.0 | |
| 890909 | 03 | 05 | 07 | 5 | 71 | 1.6 | 0.6 | 51 n | 129 59 w | 100.0 | 0.0* | |
| 890910 | 06 | 04 | 06 | 05 | 03 | 73 | 0.2 | 26 n | 112 40 w | 100.0 | 0.0* | |
| 890916 | 01 | 07 | 02 | 5 | 02 | 71 | 4.7 | 0.1 | 19 n | 096 42 w | 100.0 | 0.0* |
| 890922 | 03 | 01 | 04 | 4 | 4 | 56 | 0.2 | 0.1 | 19 n | 096 32 w | 100.0 | 0.0* |
| 890927 | 02 | 02 | 02 | 11 | 02 | 56 | 3.3 | 0.4 | 26 s | 086 54 w | 100.0 | 0.0* |
| 890927 | 03 | 05 | 07 | 5 | 55 | 0.2 | 0.4 | 26 s | 086 54 w | 100.0 | 0.0* | |
| 890927 | 04 | 03 | 04 | 1 | 55 | 2.2 | 0.5 | 12 s | 086 24 w | 100.0 | 0.0* | |
| 891006 | 02 | 03 | 02 | 5 | 45 | 8.6 | 0.2 | 43 s | 082 45 w | 100.0 | 0.0* | |
| 891006 | 02 | 03 | 01 | 4 | 74 | 0.6 | 0.2 | 57 s | 089 12 w | 100.0 | 2.0 | |
| 891008 | 01 | 03 | 02 | 4 | 45 | 0.6 | 0.2 | 54 s | 090 06 w | 100.0 | 0.0* | |
| 891008 | 03 | 05 | 06 | 4 | 45 | 0.9 | 0.2 | 33 s | 097 04 w | 100.0 | 1.0 | |
| 891010 | 06 | 01 | 11 | 2 | 51 | 10.4 | 0.2 | 33 s | 103 06 w | 100.0 | 0.0* | |
| 891012 | 01 | 01 | 01 | 4 | 01 | 4.0 | 0.2 | 25 s | 103 23 w | 100.0 | 7.0 | |
| 891012 | 02 | 05 | 02 | 5 | 05 | 9.2 | 0.2 | 22 s | 103 34 w | 100.0 | 0.0* | |
| 891012 | 03 | 02 | 04 | 06 | 02 | 45 | 3.0 | 0.2 | 20 s | 106 53 w | 100.0 | 0.0* |
| 891013 | 01 | 05 | 02 | 5 | 74 | 1.6 | 0.2 | 08 s | 110 31 w | 100.0 | 2.0 | |
| 891014 | 03 | 03 | 02 | 12 | 4 | 45 | 0.4 | 0.2 | 00 s | 111 17 w | 100.0 | 0.0* |
| 891014 | 03 | 15 | 03 | 11 | 02 | 4 | 0.5 | 0.1 | 54 s | 120 40 w | 100.0 | 2.0 |
| 891017 | 07 | 01 | 05 | 12 | 01 | 55 | 1.5 | 0.2 | 01 s | 116 24 w | 100.0 | 1.0 |
| 891020 | 01 | 15 | 02 | 12 | 6 | 05 | 1.5 | 0.3 | 34 s | 116 20 w | 100.0 | 5.0 |
| 891020 | 03 | 03 | 04 | 12 | 01 | 5 | 0.2 | 0.4 | 08 s | 113 42 w | 100.0 | 1.0 |
| 891021 | 03 | 06 | 03 | 01 | 01 | 5 | 0.2 | 0.4 | 08 s | 113 42 w | 100.0 | 4.0 |

species code: 77

Table 3. (continued)

Sightings by Species

| species: UNIDENTIFIED DOLPHIN | | | | | | | | | | | | species code: 77 | | |
|-------------------------------|--------|-----|-------|--------------|--------|----------|------------|----------|-----------|---------------|-------|------------------|------|--|
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean | school size | est | |
| year | month | day | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | low | high | |
| 891022 | 01 | 04 | 03 | 05 | 01 | 5 | 0.1 | 0.7 | 0.4 49 S | 111 08 W | 100.0 | 7.0 | 5.0 | |
| 891023 | 01 | 05 | 03 | 05 | 01 | 5 | 0.5 | 1.4 | 0.5 17 S | 107 07 W | 100.0 | 0.0* | 6.0 | |
| 891027 | 06 | 09 | 11 | 04 | 02 | 3 | 7.4 | 0.0 | 0.3 57 S | 094 11 W | 21.5 | 13.0 | 11.0 | |
| 891027 | 06 | 09 | 10 | 05 | 02 | 3 | 0.1 | 0.6 | 0.3 57 S | 094 11 W | 100.0 | 10.0 | 12.0 | |
| 891028 | 01 | 02 | 02 | 02 | 02 | 4 | 7.4 | 3.0 | 0.3 11 S | 092 35 W | 100.0 | 0.0* | 2.0 | |
| 891101 | 01 | 01 | 07 | 02 | 02 | 5 | 9.9 | 0.1 | 0.5 39 N | 086 57 W | 100.0 | 1.0 | 1.0 | |
| 891102 | 01 | 02 | 01 | 01 | 01 | 5 | 4.5 | 0.9 | 0.7 15 N | 086 06 W | 100.0 | 0.0* | 2.0 | |
| 891102 | 05 | 09 | 04 | 07 | 02 | 3 | 0.1 | 5.6 | 0.8 39 N | 085 23 W | 100.0 | 1.0 | 1.0 | |
| 891102 | 05 | 10 | 05 | 07 | 02 | 3 | 7.4 | 6.5 | 0.8 40 N | 085 21 W | 100.0 | 0.0* | 20.0 | |
| 891102 | 06 | 02 | 06 | 02 | 02 | 4 | 7.4 | 4.9 | 0.8 49 N | 085 17 W | 100.0 | 0.0* | 42.0 | |
| 891109 | 04 | 01 | 08 | 11 | 02 | 1 | 4.5 | 1.1 | 0.9 11 N | 087 39 W | 100.0 | 0.0* | 1.0 | |
| 891109 | 06 | 02 | 11 | 03 | 1 | 7.4 | 0.5 | 0.9 09 N | 087 45 W | 100.0 | 3.0 | 3.0 | | |
| 891109 | 07 | 01 | 12 | 03 | 1 | 0.1 | 2.8 | 0.9 09 N | 087 49 W | 100.0 | 3.0 | 3.0 | | |
| 891113 | 04 | 05 | 04 | 10 | 01 | 4 | 45 | 10.2 | 0.1 08 N | 094 26 W | 100.0 | 0.0* | 3.0 | |
| 891114 | 07 | 04 | 10 | 11 | 01 | 4 | 7.4 | 3.2 | 0.2 09 S | 094 13 W | 100.0 | 0.0* | 20.0 | |
| 891115 | 02 | 16 | 04 | 4 | 7.4 | 8.8 | 0.5 | 18 S | 094 15 W | 100.0 | 0.0* | 1.0 | | |
| 891117 | 01 | 13 | 03 | 4 | 05 | 9.6 | 0.3 30 S | 100 34 W | 100.0 | 0.0* | 1.0 | | | |
| 891123 | 03 | 01 | 03 | 10 | 03 | 4 | 7.4 | 3.2 | 0.2 00 N | 122 45 W | 100.0 | 0.0* | 1.0 | |
| 891124 | 03 | 04 | 10 | 01 | 4 | 5.1 | 5.4 | 0.2 01 N | 125 49 W | 100.0 | 0.0* | 20.0 | | |
| 891124 | 04 | 07 | 05 | 06 | 03 | 5 | 5.1 | 1.1 | 0.2 16 N | 125 29 W | 100.0 | 0.0* | 2.0 | |
| 891127 | 02 | 01 | 01 | 4 | 7.4 | 7.4 | 0.7 | 20 N | 123 33 W | 100.0 | 2.0 | | | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | | |
|-----------------------------------|--------|-----|-----------------|-----------------------|-----------------|----------------|---------------------|---------------------|----------------------|-----------------------------|----------------------|-------|------|-----|
| species: UNIDENTIFIED SMALL WHALE | | | | | | | | | | | | | | |
| date | series | leg | sight number | sun position horz. | beauf. vert. | detected by | perp. dist. (km) | latitude deg min | longitude deg min | proportion (% of school) | mean school size est | | | |
| 890806 | 10 | 07 | 07 | 1 | 73 | 0.1 | 11 05 n | 114 50 w | 100.0 | 3.0 | 3.0 | | | |
| 890811 | 06 | 06 | 05 | 5 | 71 | 0.0 | 06 23 n | 114 10 w | 74.5 | 38.0 | 33.0 | | | |
| 890818 | 02 | 05 | 01 | 07 | 02 | 55 | 1.9 | 13 31 n | 131 41 w | 100.0 | 1.0 | 1.0 | | |
| 890818 | 03 | 10 | 02 | 01 | 03 | 56 | 0.3 | 12 37 n | 132 36 w | 100.0 | 1.0 | 1.0 | | |
| 890818 | 01 | 09 | 01 | 11 | 02 | 4 | 73 | 0.2 | 06 40 n | 142 44 w | 100.0 | 1.0 | 1.0 | |
| 890906 | 01 | 09 | 01 | 05 | 12 | 4 | 73 | 0.5 | 04 48 n | 139 13 w | 100.0 | 1.0 | 1.0 | |
| 890907 | 02 | 01 | 05 | 12 | 12 | 4 | 73 | 0.1 | 04 54 n | 138 36 w | 100.0 | 1.0 | 1.0 | |
| 890907 | 04 | 02 | 08 | 06 | 02 | 4 | 73 | 1.7 | 05 11 n | 124 42 w | 100.0 | 1.0 | 1.0 | |
| 890912 | 05 | 03 | 04 | 04 | 12 | 5 | 55 | 0.0 | 04 59 s | 084 52 w | 100.0 | 1.0 | 1.0 | |
| 890928 | | | 05 | | | 99 | 0.0 | 02 54 s | 090 08 w | 100.0 | 1.0 | 1.0 | | |
| 891008 | 03 | 07 | 07 | 3 | 45 | 2.0 | 02 45 s | 096 48 w | 100.0 | 3.0 | 3.0 | | | |
| 891010 | 03 | 01 | 05 | 2 | 45 | 1.6 | 02 45 s | 096 48 w | 100.0 | 1.0 | 1.0 | | | |
| 891010 | 07 | 04 | 13 | 12 | 01 | 22 | 0.1 | 02 29 s | 097 25 w | 100.0 | 1.0 | 1.0 | | |
| 891010 | 08 | 03 | 15 | 12 | 01 | 01 | 0.9 | 02 29 s | 097 41 w | 100.0 | 1.0 | 1.0 | | |
| 891010 | 09 | 03 | 17 | 3 | 22 | 0.7 | 02 29 s | 098 00 w | 100.0 | 1.0 | 1.0 | | | |
| 891010 | 03 | 09 | 06 | 12 | 4 | 45 | 3.1 | 02 16 w | 104 08 w | 100.0 | 1.0 | 1.0 | | |
| 891012 | 03 | 09 | 06 | 12 | 3 | 22 | 0.0 | 02 03 s | 112 54 w | 100.0 | 5.0 | 6.0 | | |
| 891015 | 01 | 01 | 01 | 01 | 01 | 5 | 74 | 0.0 | 03 40 n | 087 19 w | 60.0 | 5.0 | 5.0 | |
| 891031 | 03 | 02 | 03 | 03 | 08 | 02 | 3 | 45 | 0.1 | 08 31 n | 085 27 w | 100.0 | 1.0 | 1.0 |
| 891102 | 05 | 05 | 03 | 08 | 01 | 01 | 0.1 | 09 23 n | 086 14 w | 100.0 | 1.0 | 1.0 | | |
| 891109 | 01 | 01 | 01 | 02 | 07 | 03 | 2 | 45 | 2.0 | 09 22 n | 086 19 w | 100.0 | 3.0 | 2.0 |
| 891109 | 01 | 01 | 02 | 02 | 07 | 03 | 2 | 22 | 0.9 | 09 17 n | 087 02 w | 100.0 | 0.0* | 1.0 |
| 891109 | 01 | 11 | 05 | 07 | 01 | 2 | 22 | 2.7 | 09 11 n | 087 41 w | 100.0 | 0.0* | 1.0 | |
| 891109 | 05 | 01 | 09 | 11 | 02 | 1 | 3 | 74 | 0.3 | 08 49 n | 089 15 w | 100.0 | 1.0 | 1.0 |
| 891110 | 01 | 03 | 01 | 03 | 02 | 4 | 22 | 4.3 | 01 37 s | 106 42 w | 100.0 | 3.0 | 3.0 | |
| 891119 | 02 | 03 | 02 | 03 | 02 | 3 | 51 | 0.1 | 01 23 s | 107 38 w | 100.0 | 5.0 | 4.0 | |
| 891119 | 06 | 03 | 06 | 13 | 07 | 3 | 74 | 0.3 | 00 23 s | 110 54 w | 100.0 | 1.0 | 1.0 | |
| 891120 | 06 | 06 | 13 | 07 | 08 | 02 | 2 | 22 | 0.9 | 30 46 n | 116 23 w | 100.0 | 1.0 | 1.0 |
| 891206 | | | 03 | | | | | | | | | | | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | | | |
|-----------------------------------|--------|-----|--------|--------------|--------|----------|-------|------------|-----------|------------|------------------|-------|-----|
| species: UNIDENTIFIED LARGE WHALE | | | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size | est | |
| yr/mo/day | | | number | horz. | vert. | number | by | dist. (km) | deg min | deg min | (% of school) | best | |
| 890809 | 01 | 02 | 01 | 09 | 03 | 4 | 55 | 3.0 | 05 37 n | 109 04 w | 100.0 | 2.0 | |
| 890811 | 06 | 05 | 04 | 02 | 11 | 03 | 5 | 73 | 6.8 | 06 23 n | 114 08 w | 100.0 | 3.0 |
| 890824 | 03 | 02 | 02 | 03 | 11 | 02 | 4 | 07 | 0.3 | 16 27 n | 149 21 w | 100.0 | 1.0 |
| 890907 | 01 | 08 | 03 | 11 | 12 | 12 | 5 | 67 | 0.5 | 05 06 n | 139 34 w | 100.0 | 2.0 |
| 890914 | 04 | 04 | 01 | 12 | 12 | 5 | 55 | 0.9 | 03 45 n | 118 53 w | 100.0 | 1.0 | |
| 890916 | 01 | 03 | 01 | 01 | 01 | 5 | 67 | 2.9 | 02 35 n | 114 03 w | 100.0 | 0.0* | |
| 890922 | 01 | 01 | 01 | 01 | 01 | 5 | 56 | 5.0 | 01 27 n | 097 00 w | 100.0 | 1.0 | |
| 890922 | 03 | 07 | 06 | 05 | 01 | 5 | 55 | 2.4 | 01 09 n | 096 12 w | 100.0 | 0.0* | |
| 890923 | | | 05 | 05 | 05 | 5 | 73 | 2.4 | 00 00 s | 093 59 w | 100.0 | 1.0 | |
| 890923 | | | 08 | 08 | 08 | 5 | 73 | 2.6 | 00 17 s | 093 14 w | 100.0 | 2.0 | |
| 891006 | 03 | 04 | 01 | 05 | 05 | 4 | 01 | 45 | 1.8 | 03 00 s | 083 17 w | 100.0 | 1.0 |
| 891007 | 07 | 01 | 01 | 03 | 03 | 4 | 4 | 74 | 2.2 | 02 57 s | 087 19 w | 100.0 | 1.0 |
| 891008 | 02 | 01 | 01 | 03 | 03 | 4 | 45 | 5.6 | 02 54 s | 089 46 w | 100.0 | 1.0 | |
| 891008 | 03 | 07 | 09 | 09 | 09 | 3 | 45 | 1.0 | 02 54 s | 090 10 w | 100.0 | 1.0 | |
| 891008 | 05 | 02 | 13 | 13 | 13 | 3 | 51 | 2.5 | 02 50 s | 091 11 w | 100.0 | 1.0 | |
| 891009 | 05 | 04 | 06 | 06 | 06 | 12 | 4 | 74 | 7.1 | 02 47 s | 093 55 w | 100.0 | 3.0 |
| 891017 | 07 | 06 | 07 | 11 | 01 | 5 | 05 | 5.6 | 01 59 s | 120 50 w | 100.0 | 1.0 | |
| 891022 | 01 | 01 | 01 | 01 | 01 | 4 | 74 | 2.7 | 04 47 s | 111 17 w | 100.0 | 1.0 | |
| 891028 | 01 | 01 | 01 | 01 | 03 | 4 | 01 | 7.2 | 03 14 s | 092 41 w | 100.0 | 2.0 | |
| 891113 | 04 | 06 | 05 | 05 | 01 | 4 | 45 | 2.9 | 01 04 n | 094 26 w | 100.0 | 1.0 | |
| 891117 | 05 | 06 | 08 | 08 | 11 | 03 | 5 | 74 | 2.2 | 03 05 s | 101 20 w | 100.0 | 1.0 |
| 891120 | 01 | 02 | 01 | 02 | 01 | 2 | 74 | 5.1 | 00 52 s | 109 19 w | 100.0 | 2.0 | |
| 891122 | 01 | 01 | 01 | 01 | 01 | 3 | 51 | 0.9 | 01 25 n | 116 50 w | 100.0 | 1.0 | |
| 891122 | 03 | 04 | 03 | 03 | 03 | 4 | 01 | 1.9 | 01 39 n | 117 40 w | 100.0 | 1.0 | |
| 891124 | 02 | 12 | 02 | 08 | 01 | 5 | 51 | 3.6 | 01 59 n | 125 13 w | 100.0 | 1.0 | |
| 891129 | 03 | 10 | 02 | 08 | 05 | 5 | 05 | 0.9 | 11 35 n | 122 29 w | 100.0 | 2.0 | |
| 891129 | 03 | 11 | 03 | 04 | 05 | 1 | 05 | 1.2 | 11 36 n | 122 26 w | 25.0 | 4.0 | |
| 891206 | 02 | 03 | 03 | 02 | 01 | 1 | 51 | 4.3 | 30 32 n | 116 37 w | 50.0 | 2.0 | |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|--------------------------------|--------|-----|--------|--------------|--------|----------|-----------|----------|-----------|---------------|----------------------|
| species: UNIDENTIFIED CETACEAN | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymddy | | | number | vert. | number | by | dist.(km) | deg min | deg min | (% of school) | |
| | | | | horz. | vert. | | | | | best | low |
| 890805 | 03 | 01 | 02 | 12 | 2 | 55 | 0.1 | 13 38 n | 117 26 w | 100.0 | 4.0 |
| 890905 | 01 | 14 | 01 | 01 | 4 | 56 | 1.0 | 07 54 n | 145 04 w | 100.0 | 3.0 |
| 890918 | 08 | 03 | 08 | 05 | 5 | 55 | 0.3 | 02 28 n | 107 16 w | 100.0 | 1.0 |
| 891008 | 04 | 05 | 10 | 01 | 3 | 01 | 0.7 | 02 52 s | 090 41 w | 100.0 | 0.0* |
| 891027 | 07 | 01 | 12 | 01 | 4 | 74 | 0.2 | 03 54 s | 094 09 w | 100.0 | 5.0 |

Table 3. (continued)

| Sightings by Species | | | | | | | | | | | |
|-----------------------------|--------|-----|-------|--------------|--------|----------|------------|----------|-----------|---------------|----------------------|
| species: UNIDENTIFIED WHALE | | | | | | | | | | | |
| date | series | leg | sight | sun position | beauf. | detected | perp. | latitude | longitude | proportion | mean school size est |
| ymd | mo | yr | num | horz. | vert. | number | dist. (km) | deg min | deg min | (% of school) | best low |
| 890821 | 01 | 02 | 01 | 05 | 03 | 4 | 55 | 4-1 | 10 13 n | 139 02 w | 100.0 |
| 890907 | 01 | 07 | 01 | 11 | 02 | 4 | 67 | 2-4 | 05 10 n | 139 44 w | 100.0 |
| 890907 | 01 | 07 | 02 | 11 | 02 | 4 | 07 | 7-9 | 05 09 n | 139 40 w | 100.0 |
| 890912 | | | | | | | 56 | 0-9 | 05 25 n | 125 37 w | 100.0 |
| 890918 | | | | | | | 07 | 0-2 | 02 21 n | 107 22 w | 100.0 |
| 890918 | 03 | 04 | 03 | 12 | 01 | 5 | 07 | 0-3 | 02 17 n | 108 13 w | 100.0 |
| 890918 | 07 | 01 | 05 | 05 | 05 | 5 | 67 | 2-0 | 02 21 n | 107 24 w | 100.0 |
| 890928 | | | | | | | 99 | 0-3 | 04 38 s | 084 22 w | 100.0 |
| 891011 | 05 | 01 | 09 | 10 | 10 | 4 | 45 | 1-5 | 02 19 s | 101 44 w | 100.0 |
| 891012 | 03 | 07 | 05 | 06 | 01 | 4 | 22 | 2-8 | 02 17 s | 104 02 w | 100.0 |
| 891012 | 03 | 22 | 07 | 11 | 03 | 4 | 74 | 1-0 | 02 08 s | 105 05 w | 100.0 |
| 891015 | 02 | 05 | 03 | 03 | 03 | 3 | 51 | 5-4 | 02 01 s | 113 08 w | 100.0 |
| 891016 | 06 | 12 | 05 | 11 | 03 | 4 | 51 | 0-6 | 02 02 s | 117 58 w | 100.0 |
| 891020 | 02 | 02 | 03 | 01 | 01 | 5 | 51 | 1-5 | 03 32 s | 116 18 w | 100.0 |
| 891022 | | | | | | | 99 | 0-1 | 04 52 s | 110 55 w | 100.0 |
| 891027 | 05 | 06 | 05 | 05 | 05 | 5 | 22 | 2-5 | 04 09 s | 094 36 w | 100.0 |
| 891027 | 06 | 05 | 09 | 06 | 06 | 02 | 5 | 2-2 | 04 04 s | 094 21 w | 100.0 |
| 891028 | 02 | 03 | 03 | 01 | 02 | 4 | 51 | 2-0 | 03 08 s | 092 28 w | 100.0 |
| 891028 | 03 | 12 | 05 | 06 | 06 | 4 | 74 | 3-8 | 02 33 s | 091 24 w | 100.0 |
| 891029 | 04 | 01 | 04 | 05 | 01 | 3 | 51 | 3-7 | 01 20 s | 089 20 w | 100.0 |
| 891115 | 02 | 01 | 02 | 09 | 03 | 4 | 45 | 7-7 | 04 29 s | 094 04 w | 100.0 |
| 891115 | 03 | 06 | 05 | 05 | 05 | 4 | 45 | 7-5 | 05 08 s | 094 41 w | 100.0 |
| 891116 | | | | | | | 22 | 0-4 | 04 20 s | 097 42 w | 100.0 |

Table 4. Marine mammal school size estimates for each observer, classified by species code, for all sightings encountered in the eastern tropical Pacific during July - September (Part A) and October - December (Part B), 1989.

A: Sightings encountered July through September, 1989.

| species | date | obs 7 | | | obs 55 | | | obs 56 | | | obs 67 | | | obs 71 | | | obs 73 | | |
|---------|------|-----------------------------|-----------|-----|-----------|-----|-----------|--------|-----------|-----|-----------|-----|-----------|--------|-----------|-----|-----------|-----|--|
| | | sight no. | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | |
| | | | | | | | | | | | | | | | | | | | |
| | | 2: OFFSHORE SPOTTED DOLPHIN | | | 375 | 100 | | | | | | | | | | | | | |
| | | 890801 | 05 | | 60 | 100 | | | | | | | | | | | | | |
| | | 890801 | 06 | | 1350 | 40 | 1800 | 60 | | | | | | | | | | | |
| | | 890805 | 07 | | | | | | | | | | | | | | | | |
| | | 890806 | 02 | | | | | | | | | | | | | | | | |
| | | 890806 | 08 | | | | | | | | | | | | | | | | |
| | | 890807 | 03 | | 80 | 100 | | | | | | | | | | | | | |
| | | 890810 | 03 | | | | | | | | | | | | | | | | |
| | | 890810 | 04 | | | | | | | | | | | | | | | | |
| | | 890810 | 05 | | | | | | | | | | | | | | | | |
| | | 890814 | 03 | | | | | | | | | | | | | | | | |
| | | 890816 | 02 | | | | | | | | | | | | | | | | |
| | | 890817 | 06 | | 250 | 10 | | | | | | | | | | | | | |
| | | 890817 | 07 | | | | | | | | | | | | | | | | |
| | | 890821 | 02 | | 45 | 80 | | | | | | | | | | | | | |
| | | 890822 | 02 | | | | | | | | | | | | | | | | |
| | | 890904 | 02 | | | | | | | | | | | | | | | | |
| | | 890904 | 03 | | | | | | | | | | | | | | | | |
| | | 890904 | 04 | | 225 | 30 | | | | | | | | | | | | | |
| | | 890909 | 03 | | 220 | 95 | | | | | | | | | | | | | |
| | | 890910 | 02 | | 65 | 100 | | | | | | | | | | | | | |
| | | 890910 | 06 | | 50 | 85 | | | | | | | | | | | | | |
| | | 890912 | 02 | | 40 | 100 | | | | | | | | | | | | | |
| | | 890913 | 01 | | 50 | 100 | | | | | | | | | | | | | |
| | | 890918 | 01 | | | | | | | | | | | | | | | | |
| | | 890918 | 06 | | 45 | 95 | | | | | | | | | | | | | |
| | | 890919 | 02 | | 65 | 10 | | | | | | | | | | | | | |
| | | 890921 | 01 | | | | | | | | | | | | | | | | |
| | | 890922 | 03 | | | | | | | | | | | | | | | | |
| | | 3: SPINNER DOLPHIN | | | | | | | | | | | | | | | | | |
| | | 890806 | 08 | | | | | | | | | | | | | | | | |
| | | 890918 | 06 | | 45 | 5 | | | | | | | | | | | | | |
| | | 5: COMMON DOLPHIN | 01 | | 165 | 100 | | | | | | | | | | | | | |
| | | 890731 | 02 | | | | | | | | | | | | | | | | |
| | | 10: EASTERN SPINNER DOLPHIN | 04 | | 135 | 100 | | | | | | | | | | | | | |
| | | 890803 | 05 | | | | | | | | | | | | | | | | |
| | | 890804 | 02 | | 35 | 100 | | | | | | | | | | | | | |
| | | 890805 | 03 | | 180 | 100 | | | | | | | | | | | | | |
| | | 890805 | 07 | | 1350 | 60 | | | | | | | | | | | | | |
| | | 890806 | 01 | | 40 | 100 | | | | | | | | | | | | | |
| | | 890806 | 02 | | | | | | | | | | | | | | | | |
| | | 890806 | 03 | | 200 | 100 | | | | | | | | | | | | | |

Table 4A. (continued)

| date | sight no. | obs 7 | | | obs 55 | | | obs 56 | | | obs 67 | | | obs 71 | | | obs 73 | | |
|---|-----------|-----------|-----|-----------|--------|-----------|-----|-----------|-----|-----------|--------|-----------|-----|-----------|-----|-----------|--------|--|--|
| | | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | best est. | pct | | |
| species 10: EASTERN SPINNER DOLPHIN | | | | | | | | | | | | | | | | | | | |
| | 890816 | 02 | | 275 | 40 | | | | | | | | | 170 | 60 | 210 | 38 | | |
| species 11: WHITEBELLY SPINNER DOLPHIN | | | | | | | | | | | | | | | | | | | |
| | 890810 | 01 | 120 | 100 | | 250 | 100 | 450 | 100 | | | | | 90 | 98 | 150 | 90 | | |
| | 890810 | 05 | 125 | 85 | | 320 | 95 | 375 | 60 | | | | | 440 | 100 | 750 | 100 | | |
| | 890817 | 01 | | | | 350 | 95 | | | | | | | | | | | | |
| | 890817 | 05 | | | | 650 | 100 | | | | | | | | | | | | |
| | 890817 | 06 | 250 | 90 | | 1700 | 99 | 1350 | 95 | | | | | | | | | | |
| | 890821 | 02 | 45 | 20 | | 250 | 220 | 350 | 20 | | | | | | | | | | |
| | 890822 | 02 | | | | 375 | 50 | | | | | | | | | | | | |
| | 890904 | 01 | | | | 135 | 100 | 115 | 100 | | | | | | | | | | |
| | 890904 | 02 | 45 | 100 | | 550 | 40 | | | | | | | | | | | | |
| | 890904 | 03 | | | | 400 | 25 | | | | | | | | | | | | |
| | 890904 | 04 | 225 | 70 | | 1200 | 75 | 1200 | 88 | | | | | | | | | | |
| | 890904 | 06 | 25 | 100 | | 55 | 100 | 60 | 100 | | | | | | | | | | |
| | 890909 | 03 | 220 | 5 | | 1000 | 2 | 1450 | 5 | | | | | | | | | | |
| | 890910 | 06 | 50 | 15 | | 90 | 60 | | | | | | | | | | | | |
| | 890918 | 01 | | | | 200 | 2 | 225 | 3 | | | | | | | | | | |
| | 890919 | 02 | 65 | 90 | | 400 | 70 | 525 | 93 | | | | | | | | | | |
| | 890920 | 03 | | | | 160 | 100 | | | | | | | | | | | | |
| | 890921 | 01 | 300 | 60 | | 200 | 60 | | | | | | | | | | | | |
| species 13: STRIPED DOLPHIN | | | | | | | | | | | | | | | | | | | |
| | 890731 | 03 | | | | 225 | 100 | | | | | | | | | | | | |
| | 890801 | 01 | | | | 65 | 100 | 100 | 125 | | | | | | | | | | |
| | 890801 | 02 | 35 | 100 | | 2 | 100 | | | | | | | | | | | | |
| | 890801 | 04 | | | | 17 | 100 | | | | | | | | | | | | |
| | 890802 | 04 | 8 | 100 | | 20 | 100 | | | | | | | | | | | | |
| | 890802 | 06 | 25 | 100 | | 20 | 100 | | | | | | | | | | | | |
| | 890802 | 08 | | | | 70 | 100 | | | | | | | | | | | | |
| | 890803 | 02 | | | | 45 | 100 | 40 | 100 | | | | | | | | | | |
| | 890803 | 03 | 22 | 100 | | 70 | 100 | | | | | | | | | | | | |
| | 890803 | 05 | | | | 40 | 100 | | | | | | | | | | | | |
| | 890804 | 01 | 23 | 100 | | 70 | 100 | 70 | 100 | | | | | | | | | | |
| | 890804 | 04 | 15 | 100 | | 55 | 100 | 80 | 100 | | | | | | | | | | |
| | 890805 | 05 | | | | 40 | 100 | 45 | 100 | | | | | | | | | | |
| | 890805 | 06 | 20 | 100 | | 30 | 100 | 55 | 100 | | | | | | | | | | |
| | 890809 | 03 | 65 | 100 | | 130 | 100 | 260 | 100 | | | | | | | | | | |
| | 890811 | 01 | 25 | 100 | | 70 | 100 | 150 | 100 | | | | | | | | | | |
| | 890817 | 03 | 20 | 100 | | 40 | 100 | 40 | 100 | | | | | | | | | | |
| | 890819 | 02 | | | | 85 | 100 | | | | | | | | | | | | |
| | 890819 | 03 | 45 | 100 | | 60 | 100 | | | | | | | | | | | | |
| | 890819 | 04 | | | | 17 | 70 | 115 | 100 | | | | | | | | | | |
| | 890821 | 05 | 35 | 100 | | 60 | 100 | 130 | 100 | | | | | | | | | | |
| | 890824 | 01 | 22 | 100 | | 85 | 100 | | | | | | | | | | | | |
| | 890909 | 01 | | | | 100 | 100 | 75 | 100 | | | | | | | | | | |
| | 890913 | 03 | 10 | 100 | | 25 | 100 | | | | | | | | | | | | |
| | 890913 | 05 | 55 | 100 | | 150 | 100 | 400 | 100 | | | | | | | | | | |
| | 890913 | 06 | 12 | 100 | | 35 | 100 | 40 | 100 | | | | | | | | | | |
| | 890916 | 02 | | | | 400 | 100 | | | | | | | | | | | | |

Table 4A. (continued)

| date | sight no. | obs 7 | | | obs 55 | | | obs 56 | | | obs 67 | | | obs 71 | | | obs 73 | | |
|---------|--------------------------------|-------|-----|------|--------|-----|------|--------|-----|------|--------|-----|------|--------|-----|------|--------|-----|--|
| | | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | |
| | | | | | | | | | | | | | | | | | | | |
| species | 13: STRIPED DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 890919 01 | 10 | 100 | | 25 | 100 | | 35 | 100 | | 60 | 100 | | 8 | 100 | | | | |
| | 890920 01 | 5 | 100 | | 15 | 100 | | 10 | 100 | | 30 | 100 | | | | | | | |
| | 890920 04 | | | | | | | | | | | | | | | | | | |
| | 890920 05 | | | | | | | | | | | | | | | | | | |
| | 890920 06 | 11 | 100 | | 125 | 100 | | 20 | 100 | | 13 | 100 | | | | | | | |
| | 890920 07 | 23 | 100 | | | | | 60 | 100 | | 60 | 100 | | | | | | | |
| | 890922 07 | 15 | 100 | | | | | 60 | 100 | | | | | | | | | | |
| | 890929 07 | | | | | | | | | | | | | | | | | | |
| species | 15: ROUGH-TOOCHED DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 890907 09 | | | | | | | 20 | 100 | | | | | | | | | | |
| species | 17: "SHORT-SNOUTED WHITEBELLY" | | | | | | | | | | | | | | | | | | |
| | 890801 01 | 65 | 100 | | 190 | 100 | | 75 | 100 | | 170 | 100 | | 100 | 99 | 100 | 98 | | |
| | 890804 04 | 80 | 100 | | 235 | 100 | | | | | | | | 55 | 100 | 55 | 100 | | |
| | 890923 01 | 70 | 100 | | 1800 | 100 | | | | | | | | | | | | | |
| | 890923 02 | 320 | 100 | | | | | | | | | | | | | | | | |
| | 890923 04 | 290 | 100 | | | | | | | | | | | | | | | | |
| | 890923 06 | 85 | 100 | | | | | | | | | | | | | | | | |
| | 890923 07 | 250 | 100 | | | | | | | | | | | | | | | | |
| | 890928 04 | 500 | 100 | | | | | | | | | | | | | | | | |
| | 890928 06 | 300 | 100 | | | | | | | | | | | | | | | | |
| | 890928 07 | 250 | 100 | | | | | | | | | | | | | | | | |
| | 890929 02 | 500 | 100 | | | | | | | | | | | | | | | | |
| | 890929 03 | 210 | 100 | | | | | | | | | | | | | | | | |
| | 890929 04 | 190 | 100 | | | | | | | | | | | | | | | | |
| | 890929 06 | | | | | | | | | | | | | | | | | | |
| species | 18: BOTTLENOSED DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 890804 05 | 30 | 100 | | 30 | 100 | | 35 | 100 | | 20 | 25 | | 31 | 60 | | | | |
| | 890819 01 | | | | | | | | | | | | | | | | | | |
| | 890919 03 | | | | | | | | | | | | | | | | | | |
| species | 21: RISSO'S DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 890803 06 | 20 | 100 | | 30 | 100 | | 30 | 100 | | | | | | | | | | |
| | 890913 02 | | | | | | | | | | | | | | | | | | |
| | 890928 01 | | | | | | | | | | | | | | | | | | |
| | 890928 02 | | | | | | | | | | | | | | | | | | |
| | 890928 03 | 8 | 100 | | | | | | | | | | | | | | | | |
| species | 26: FRASER'S DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 890920 02 | | | | | | | | | | | | | | | | | | |
| species | 33: FALSE KILLER WHALE | | | | | | | | | | | | | | | | | | |
| | 890822 01 | 3 | 100 | | | | | | | | | | | | | | | | |
| | 890822 03 | | | | | | | | | | | | | | | | | | |
| | 890910 09 | | | | | | | | | | | | | | | | | | |
| species | 36: SHORT-FINNED PILOT WHALE | | | | | | | | | | | | | | | | | | |
| | 890819 04 | 17 | 30 | | | | | | | | | | | | | | | | |
| | 890907 04 | 20 | 100 | | | | | | | | | | | | | | | | |

Table 4A. (continued)

| | | obs 7 | obs 55 | obs 56 | obs 67 | obs 71 | obs 73 |
|-------------------------------------|--------|-----------|----------|-----------|----------|-----------|----------|
| | date | sight no. | best pct | best est. | best pct | best est. | best pct |
| 36: SHORT-FINNED PILOT WHALE | | | | | | | |
| species | 890910 | 01 | 18 | 100 | | | |
| | 890910 | 03 | | | | | |
| | 890919 | 03 | | | | | |
| | | | | 20 | 75 | 31 | 40 |
| | | | | | | | 30 |
| | | | | | | | 100 |
| 37: KILLER WHALE | | | | | | | |
| species | 890809 | 04 | 3 | 100 | | | |
| | 890821 | 06 | 8 | 100 | | | |
| | 890905 | 03 | 7 | 100 | | | |
| | | | | 7 | 100 | | |
| | | | | | | | 3 |
| | | | | | | | 100 |
| 46: SPERM WHALE | | | | | | | |
| species | 890805 | 01 | 2 | 100 | | | |
| | 890811 | 05 | 37 | 19 | | | |
| | 890909 | 02 | | | | | |
| | 890909 | 05 | 1 | 100 | | | |
| | 890916 | 04 | 4 | 100 | | | |
| | 890929 | 01 | | | | | |
| | 890929 | 05 | | | | | |
| | | | | | | | 2 |
| | | | | | | | 100 |
| 49: BEAKED WHALE | | | | | | | |
| species | 890821 | 04 | | | | | |
| | 890916 | 03 | | | | | |
| | | | 1 | 100 | | | |
| | | | 5 | 100 | | | |
| | | | | | | | 3 |
| | | | | | | | 100 |
| 51: UNID. MESOPLODONT | | | | | | | |
| species | 890806 | 05 | 1 | 100 | | | |
| | 890807 | 04 | | | | | |
| | 890811 | 02 | 1 | 100 | | | |
| | | | 3 | 100 | | | |
| | | | 1 | 100 | | | |
| | | | | | | | 3 |
| | | | | | | | 100 |
| 61: CUVIER'S BEAKED WHALE | | | | | | | |
| species | 890806 | 04 | | | | | |
| | 890809 | 02 | 3 | 100 | | | |
| | 890821 | 03 | | | | | |
| | 890914 | 02 | | | | | |
| | | | | | | | 3 |
| | | | | | | | 100 |
| 70: RORQUAL | | | | | | | |
| species | 890914 | 03 | 2 | 100 | | | |
| | 890915 | 01 | | | | | |
| | 890918 | 02 | | | | | |
| | | | 4 | 100 | | | |
| | | | 1 | 100 | | | |
| | | | | | | | 4 |
| | | | | | | | 100 |
| 72: BRYDE'S WHALE | | | | | | | |
| species | 890907 | 07 | | | | | |
| | 890912 | 03 | | | | | |
| | 890914 | 04 | | | | | |
| | 890918 | 04 | | | | | |
| | | | 3 | 100 | | | |
| | | | 4 | 100 | | | |
| | | | 1 | 100 | | | |
| | | | | | | | 4 |
| | | | | | | | 100 |
| 75: BLUE WHALE | | | | | | | |
| species | 890924 | 01 | | | | | |
| | 890928 | 08 | | | | | |
| | | | 2 | 100 | | | |
| | | | | | | | 2 |
| | | | | | | | 100 |

Table 4A. (continued)

| date no. | sight | obs 7 | | | obs 56 | | | obs 67 | | | obs 71 | | | obs 73 | | |
|---|-------|-------|-----|------|--------|-----|------|--------|-----|------|--------|-----|------|--------|-----|--|
| | | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | |
| species 77: UNIDENTIFIED DOLPHIN | | | | | | | | | | | | | | | | |
| 890801 | 03 | 12 | 100 | | | | | | | | | | | | | |
| 890802 | 01 | 15 | 100 | 2 | 100 | | | | | | | | | | | |
| 890802 | 02 | | | | | | | | | | | | | | | |
| 890806 | 06 | | | | | | | | | | | | | | | |
| 890817 | 01 | | | | | | | | | | | | | | | |
| 890904 | 05 | | | | | | | | | | | | | | | |
| 890909 | 02 | | | | | | | | | | | | | | | |
| species 78: UNIDENTIFIED SMALL WHALE | | | | | | | | | | | | | | | | |
| 890806 | 07 | 3 | 100 | 3 | 100 | 3 | 100 | | | | | | | | | |
| 890811 | 05 | 37 | 81 | 40 | 75 | 40 | 75 | | | | | | | | | |
| 890818 | 01 | | | 1 | 100 | 1 | 100 | | | | | | | | | |
| 890818 | 02 | | | | | | | | | | | | | | | |
| 890906 | 01 | | | | | | | | | | | | | | | |
| 890907 | 05 | | | | | | | | | | | | | | | |
| 890907 | 08 | | | | | | | | | | | | | | | |
| 890912 | 04 | | | | | | | | | | | | | | | |
| species 79: UNIDENTIFIED LARGE WHALE | | | | | | | | | | | | | | | | |
| 890809 | 01 | | | | | | | | | | | | | | | |
| 890811 | 04 | | | | | | | | | | | | | | | |
| 890824 | 02 | | | | | | | | | | | | | | | |
| 890907 | 03 | | | | | | | | | | | | | | | |
| 890914 | 01 | | | | | | | | | | | | | | | |
| species 96: UNIDENTIFIED CETACEAN | | | | | | | | | | | | | | | | |
| 890805 | 02 | | | | | | | | | | | | | | | |
| 890905 | 01 | | | | | | | | | | | | | | | |
| 890918 | 08 | | | | | | | | | | | | | | | |
| species 98: UNIDENTIFIED WHALE | | | | | | | | | | | | | | | | |
| 890821 | 01 | 1 | 100 | 1 | 100 | 1 | 100 | | | | | | | | | |
| 890907 | 01 | | | | | | | | | | | | | | | |
| 890907 | 02 | | | | | | | | | | | | | | | |
| 890918 | 03 | | | | | | | | | | | | | | | |
| 890918 | 05 | | | | | | | | | | | | | | | |

Table 4B. Sightings encountered October through December, 1989.

Table 4B. (continued)

| date | sight no. | obs 1 | | | obs 5 | | | obs 22 | | | obs 45 | | | obs 51 | | | obs 74 | | |
|---------|--------------------------------|-------|-----|------|-------|-----|------|--------|------|------|--------|-----|------|--------|-----|------|--------|-----|--|
| | | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | |
| species | 13: STRIPED DOLPHIN | | | | 200 | 70 | 275 | 75 | 350 | 80 | | | | | | | | | |
| | 891116 | 03 | | | | | | 65 | 100 | 20 | 100 | | | | | | | | |
| | 891116 | 04 | | | | | | 110 | 100 | 20 | 100 | | | | | | | | |
| | 891117 | 05 | | | | | | 65 | 100 | 60 | 100 | | | | | | | | |
| | 891118 | 02 | | | | | | | | | | | | | | | | | |
| | 891118 | 03 | | | 120 | 100 | 125 | 100 | | | | | | | | | | | |
| | 891118 | 04 | | | 225 | 100 | | | | | | | | | | | | | |
| | 891118 | 05 | | | 130 | 80 | | | | | | | | | | | | | |
| | 891118 | 06 | | | | | | | | | | | | | | | | | |
| | 891118 | 07 | | | | | | | | | | | | | | | | | |
| | 891119 | 03 | | | | | | | | | | | | | | | | | |
| | 891119 | 03 | | | | | | | | | | | | | | | | | |
| | 891120 | 03 | | | 45 | 100 | 255 | 100 | 215 | 100 | 350 | 100 | | 34 | 100 | 70 | 100 | | |
| | 891120 | 06 | | | | | | | | | | | | | | | | | |
| species | 15: ROUGH-TOOCHED DOLPHIN | | | | | | | 1 | 100 | | | | | | | | | | |
| | 891011 | 05 | | | | | | 3 | 100 | | | | | | | | | | |
| | 891017 | 04 | | | | | | 5 | 100 | | | | | | | | | | |
| | 891117 | 01 | | | | | | | | | | | | | | | | | |
| species | 17: "SHORT-SNOUTED WHITEBELLY" | | | | | | | | | | | | | | | | | | |
| | 891006 | 01 | | | 45 | 100 | 650 | 100 | 1400 | 100 | 1000 | 100 | | | | | | | |
| | 891006 | 04 | | | | | | 80 | 100 | 60 | 100 | 80 | 100 | | | | | | |
| | 891007 | 04 | | | | | | 18 | 100 | | | | | | | | | | |
| | 891008 | 05 | | | | | | | | | | | | | | | | | |
| | 891009 | 04 | | | 2700 | 100 | 1900 | 100 | 2300 | 100 | 5500 | 100 | 2500 | 100 | 730 | 100 | 320 | 100 | |
| | 891009 | 09 | | | | | | 900 | 100 | 1850 | 100 | | | | | 140 | 100 | 900 | |
| | 891029 | 01 | | | 170 | 100 | | | | | | | | | | | | | |
| | 891029 | 05 | | | 210 | 100 | 600 | 100 | 680 | 100 | 950 | 100 | | | | | | | |
| | 891029 | 06 | | | | | | | | | | | | | | | | | |
| | 891031 | 01 | | | | | | | | | | | | | | | | | |
| | 891113 | 07 | | | 350 | 100 | 200 | 100 | 435 | 100 | 480 | 100 | | | | | | | |
| | 891113 | 09 | | | | | | | | | | | | | | | | | |
| | 891114 | 06 | | | | | | | | | | | | | | | | | |
| | 891114 | 14 | | | | | | | | | | | | | | | | | |
| species | 18: BOTTLENOSED DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 891006 | 08 | | | 48 | 65 | | | | | | | | | | | | | |
| | 891008 | 04 | | | 35 | 100 | | | | | | | | | | | | | |
| | 891010 | 01 | | | 165 | 98 | | | | | | | | | | | | | |
| | 891010 | 04 | | | | | | | | | | | | | | | | | |
| | 891010 | 06 | | | | | | | | | | | | | | | | | |
| | 891016 | 04 | | | | | | | | | | | | | | | | | |
| | 891016 | 04 | | | | | | | | | | | | | | | | | |
| | 891019 | 02 | | | 25 | 5 | | | | | | | | | | | | | |
| | 891019 | 03 | | | 19 | 2 | | | | | | | | | | | | | |
| | 891115 | 05 | | | 45 | 40 | | | | | | | | | | | | | |
| | 891117 | 09 | | | 60 | 95 | | | | | | | | | | | | | |
| | 891118 | 10 | | | 50 | 2 | | | | | | | | | | | | | |
| species | 21: RISSO'S DOLPHIN | | | | | | | | | | | | | | | | | | |
| | 891008 | 08 | | | | | | | | | | | | | | | | | |
| | 891010 | 14 | | | | | | | | | | | | | | | | | |

Table 4B. (continued)

| | | obs 1 | obs 5 | obs 22 | obs 45 | obs 51 | obs 74 | |
|---|--|--|--|---|--|--|---|--|
| date | sight no. | best est. | best est. | best est. | best est. | best est. | best est. | |
| species 21: RISSO'S DOLPHIN | 891010 891016 891027 891029 891029 891031 891031 | 16 02 07 03 07 02 03 | 100 100 100 100 100 15 15 | 6 4 4 18 100 2 2 | 100 100 100 100 100 100 100 | 6 3 4 3 3 2 5 | 100 100 100 100 100 40 40 | |
| species 22: PACIFIC WHITE-SIDED DOLPHIN | 891205 | 03 | 30 | 100 | | | | |
| species 26: FRASER'S DOLPHIN | 891017 891123 | 03 01 | 600 | 100 | 125 450 | 100 100 | 70 380 | |
| species 31: MELON-HEADED WHALE | 891203 | 01 | 350 | 100 | | | | |
| species 32: PYGMY KILLER WHALE | 891119 | 04 | 14 | 100 | | | | |
| species 33: FALSE KILLER WHALE | 891118 891118 891205 | 09 10 02 | 75 50 8 | 85 50 30 | 100 100 100 | 19 100 19 | 30 100 30 | |
| species 34: PILOT WHALE | 891006 891006 891010 891010 891010 891016 891016 891017 891017 891019 891019 891019 891027 | 06 08 01 04 06 03 04 02 06 01 02 03 03 06 | 48 165 2 165 2 12 12 35 100 5 25 19 98 | 35 2 12 100 100 100 100 12 100 100 95 19 98 | 98 15 87 104 20 12 100 6 100 100 100 100 100 | 24 15 15 104 29 15 15 2062 29 100 100 100 100 100 | 104 15 42 29 29 15 15 3 42 30 30 20 28 199 | 33 33 33 33 33 33 33 33 33 33 33 33 33 33 |
| H06 | 891027 | 08 | | | | | | |
| 891114 | 05 | 35 | 100 | | | | | |
| 891114 | 08 | 26 | 100 | | | | | |
| 891114 | 13 | | | | | | | |
| 891115 | 01 | | | | | | | |
| 891115 | 05 | 45 | 60 | | | | | |
| 891117 | 09 | 60 | 5 | | | | | |
| 891118 | 09 | 75 | 15 | | | | | |
| 891118 | 10 | 50 | 90 | | | | | |

Table 4B. (continued)

| | | obs | 1 | obs | 5 | obs | 22 | obs | 45 | obs | 51 | obs | 74 |
|---------|--------|----------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|
| | date | sight | best | pct | est. |
| | no. | | | | | | | | | | | | |
| species | 36: | SHORT-FINNED PILOT WHALE | | | | | | | | | | | |
| | 891102 | 02 | 20 | 100 | | | | | | | | | |
| | | | | | | | | | | | | | |
| species | 37: | KILLER WHALE | | | | | | | | | | | |
| | 891027 | 02 | | | | | | | | | | | |
| | 891116 | 02 | | | | | | | | | | | |
| species | 46: | SPERM WHALE | | | | | | | | | | | |
| | 891006 | 02 | | | | | | | | | | | |
| | 891006 | 06 | | | | | | | | | | | |
| | 891008 | 02 | | | | | | | | | | | |
| | 891008 | 12 | 1 | 100 | | | | | | | | | |
| | 891011 | 03 | 7 | 100 | | | | | | | | | |
| | 891020 | 01 | 1 | 100 | | | | | | | | | |
| | 891022 | 02 | 5 | 100 | | | | | | | | | |
| | 891031 | 02 | 9 | 85 | | | | | | | | | |
| | 891110 | 02 | | | | | | | | | | | |
| | 891114 | 04 | | | | | | | | | | | |
| | 891117 | 02 | | | | | | | | | | | |
| | 891117 | 07 | | | | | | | | | | | |
| | 891120 | 02 | | | | | | | | | | | |
| | 891120 | 05 | | | | | | | | | | | |
| species | 49: | BEAKED WHALE | | | | | | | | | | | |
| | 891115 | 03 | | | | | | | | | | | |
| | 891118 | 08 | | | | | | | | | | | |
| | 891205 | 01 | | | | | | | | | | | |
| species | 50: | SOUTHERN BOTTLENOSED WHALE | | | | | | | | | | | |
| | 891113 | 01 | | | | | | | | | | | |
| species | 51: | UNID. MESOPLODONT | | | | | | | | | | | |
| | 891124 | 01 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| species | 61: | CUVIER'S BEAKED WHALE | | | | | | | | | | | |
| | 891007 | 03 | 1 | 100 | | | | | | | | | |
| | 891008 | 11 | | | | | | | | | | | |
| | 891011 | 04 | | | | | | | | | | | |
| | 891022 | 05 | | | | | | | | | | | |
| | 891109 | 03 | | | | | | | | | | | |
| | 891109 | 04 | 3 | 100 | | | | | | | | | |
| | 891109 | 06 | | | | | | | | | | | |
| | 891109 | 07 | | | | | | | | | | | |
| | 891203 | 02 | | | | | | | | | | | |
| species | 70: | RORQUAL | | | | | | | | | | | |
| | 891009 | 05 | | | | | | | | | | | |
| | 891009 | 08 | | | | | | | | | | | |
| | 891015 | 05 | | | | | | | | | | | |
| | 891021 | 01 | 1 | 100 | | | | | | | | | |
| | 891022 | 06 | 2 | 100 | | | | | | | | | |

Table 4B. (continued)

| | date | sight no. | obs 1 best est. | obs 5 best est. | obs 22 best est. | obs 45 best est. | obs 51 best est. | obs 74 best est. |
|---------|--------|--------------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|
| species | 70: | RORQUAL | | | | | | |
| | 891023 | 02 | 1 | 100 | | | 1 | 100 |
| | 891026 | 02 | | | | | | |
| | 891118 | 12 | | | | | | |
| | 891122 | 02 | | | | | | |
| species | 72: | BRYDE'S WHALE | | | | | | |
| | 891009 | 01 | | | | | | |
| | 891015 | 05 | | | | | | |
| | 891017 | 08 | | | | | | |
| | 891113 | 03 | | | | | | |
| | 891129 | 03 | | | | | | |
| species | 73: | SEI WHALE | | | | | | |
| | 891129 | 03 | | | | | | |
| | | | 4 | 25 | | | | |
| species | 75: | BLUE WHALE | | | | | | |
| | 891120 | 04 | | | | | | |
| species | 76: | HUMPBACK WHALE | | | | | | |
| | 891006 | 06 | | | | | | |
| | 891206 | 01 | | | | | | |
| species | 77: | UNIDENTIFIED DOLPHIN | | | | | | |
| | 891008 | 01 | | | | | | |
| | 891014 | 02 | | | | | | |
| | 891017 | 05 | | | | | | |
| | 891022 | 03 | | | | | | |
| | 891027 | 10 | | | | | | |
| | 891102 | 04 | | | | | | |
| | 891109 | 11 | | | | | | |
| | 891109 | 12 | | | | | | |
| | 891127 | 01 | | | | | | |
| species | 78: | UNIDENTIFIED SMALL WHALE | | | | | | |
| | 891008 | 07 | | | | | | |
| | 891010 | 05 | | | | | | |
| | 891010 | 13 | | | | | | |
| | 891010 | 15 | | | | | | |
| | 891010 | 17 | | | | | | |
| | 891012 | 06 | | | | | | |
| | 891015 | 01 | | | | | | |
| | 891031 | 03 | | | | | | |
| | 891102 | 03 | | | | | | |
| | 891109 | 01 | | | | | | |
| | 891109 | 02 | | | | | | |
| | 891110 | 01 | | | | | | |
| | 891119 | 02 | | | | | | |
| | 891119 | 06 | | | | | | |
| | 891120 | 07 | | | | | | |

Table 4B. (continued)

| date | sight no. | obs 1 | | | obs 5 | | | obs 22 | | | obs 45 | | | obs 51 | | | obs 74 | | |
|-------------|------------------------------|-------|-----|------|-------|-----|------|--------|-----|------|--------|-----|------|--------|-----|------|--------|-----|--|
| | | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | est. | best | pct | |
| | | | | | | | | | | | | | | | | | | | |
| species | 79: UNIDENTIFIED LARGE WHALE | | | | | | | | | | | | | | | | | | |
| | 891006 | 05 | | 100 | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891007 | 05 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891008 | 03 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891008 | 09 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891008 | 13 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891009 | 06 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891017 | 07 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891022 | 01 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891028 | 01 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891113 | 05 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891117 | 08 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891120 | 01 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891122 | 01 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891122 | 03 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891124 | 02 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891129 | 03 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891206 | 01 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| 109 species | 96: UNIDENTIFIED CETACEAN | | | | | | | | | | | | | | | | | | |
| | 891027 | 12 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | | | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| species | 98: UNIDENTIFIED WHALE | | | | | | | | | | | | | | | | | | |
| | 891011 | 09 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891012 | 05 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | 891012 | 07 | | | | | | | | | 1 | 100 | | | | | 5 | 100 | |
| | 891015 | 03 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | 891016 | 05 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891020 | 03 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | 891027 | 05 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | 891028 | 03 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891028 | 05 | | | | | | | | | 1 | 100 | | | | | 3 | 100 | |
| | 891029 | 04 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |
| | 891115 | 02 | | | | | | | | | 1 | 100 | | | | | 2 | 100 | |
| | 891115 | 06 | | | | | | | | | 1 | 100 | | | | | 1 | 100 | |

Table 5. Summary of marine mammal sightings encountered in the eastern tropical Pacific during July 29 through December 7, 1989.

| species name (scientific name) | species code | species total | sightings pure | sightings mixed | means / (n) | means of school / (n) | size estimates best / (n) |
|--|--------------|---------------|----------------|-----------------|-------------|-----------------------|---------------------------|
| OFFSHORE SPOTTED DOLPHIN (<i>STENELLA ATTENUATA</i>) | 2 | 46 | 22 | 24 | 150.29(46) | 237.92(45) | 184.75(45) |
| SPINNER DOLPHIN (<i>STENELLA LONGIROSTRIS</i>) | 3 | 3 | 0 | 3 | 17.43(3) | 53.48(2) | 31.72(2) |
| COMMON DOLPHIN (<i>DELPHINUS DELPHIS</i>) | 5 | 3 | 3 | 0 | 175.00(2) | 237.50(2) | 208.50(2) |
| EASTERN SPINNER DOLPHIN (<i>STENELLA LONGIROSTRIS</i>) | 10 | 10 | 5 | 5 | 142.17(10) | 195.71(10) | 169.45(10) |
| WHITEBELLY SPINNER DOLPHIN (<i>STENELLA LONGIROSTRIS</i>) | 11 | 25 | 5 | 20 | 194.69(25) | 280.34(25) | 230.42(25) |
| STRIPED DOLPHIN (<i>S. COERULEOALBA</i>) | 13 | 89 | 82 | 7 | 60.70(89) | 104.22(77) | 82.73(77) |
| ROUGH-TOOTHED DOLPHIN (<i>STENO BREDAENESIS</i>) | 15 | 7 | 6 | 1 | 6.79(7) | 9.92(7) | 8.17(7) |
| "LONG-SNOOTED WHITEBELLY" (<i>DELPHINUS DELPHIS</i> SUBSP. ?) | 16 | 1 | 1 | 0 | ******(1) | ******(1) | ******(1) |
| "SHORT-SNOOTED WHITEBELLY" (<i>DELPHINUS DELPHIS</i> SUBSP. ?) | 17 | 33 | 31 | 2 | 367.53(33) | 577.56(30) | 466.23(30) |
| BOTTLENOSED DOLPHIN (<i>TURSIOPS TRUNCATUS</i>) | 18 | 23 | 9 | 14 | 14.78(22) | 25.49(19) | 25.33(20) |
| RISSO'S DOLPHIN (<i>GRAMPUS GRISEUS</i>) | 21 | 21 | 18 | 3 | 6.39(21) | 11.69(17) | 9.02(17) |
| PACIFIC WHITE-SIDED DOLPHIN (<i>LAGENORHYNCHUS OBLIQUIDENS</i>) | 22 | 2 | 2 | 0 | 87.50(2) | 143.50(2) | 111.00(2) |
| FRASER'S DOLPHIN (<i>LAGENODELPHIS HOSEI</i>) | 26 | 5 | 3 | 2 | 186.97(5) | 261.34(5) | 221.29(5) |
| UNIDENTIFIED DOLPHIN | 77 | 65 | 59 | 6 | 10.68(63) | 42.18(20) | 29.82(21) |

Table 5. (continued)

| species name (scientific name) | species code | species sightings total | species sightings pure mixed | means of school size estimates low / (n) high / (n) best / (n) |
|--|--------------|----------------------------|---------------------------------|---|
| MELON-HEADED WHALE (PEPONOCEPHALA ELECTRA) | 31 | 2 | 1 | 311.90(2) 433.62(2) 372.98(2) |
| PYGMY KILLER WHALE (FERESA ATTENUATA) | 32 | 1 | 0 | 10.00(1) 16.00(1) 11.00(1) |
| FALSE KILLER WHALE (PSEUDORCA CRASSIDENS) | 33 | 7 | 5 | 20.39(7) 20.27(6) 14.02(6) |
| PILOT WHALE (GLOBICEPHALA SP.) | 34 | 31 | 15 | 16 11.79(31) 18.87(27) 15.13(27) |
| SHORT-FINNED PILOT WHALE (GLOBICEPHALA MACRORHYNCHUS) | 36 | 10 | 6 | 4 13.76(10) 22.41(9) 17.94(9) |
| KILLER WHALE (ORCINUS ORCA) | 37 | 6 | 6 | 0 4.67(6) 7.60(5) 5.80(5) |
| SPERM WHALE (PHYSETER MACROCEPHALUS) | 46 | 27 | 23 | 4 6.12(27) 7.16(26) 6.56(26) |
| DWARF SPERM WHALE (KOGIA SIMUS) | 48 | 1 | 1 | 0 1.00(1) 1.00(1) 1.00(1) |
| BEAKED WHALE (ZIPHIDI) | 49 | 6 | 6 | 0 2.17(6) 2.33(6) 2.17(6) |
| SOUTHERN BOTTLENOSED WHALE (HYPERODON PLANIFRONS) | 50 | 1 | 1 | 0 11.00(1) 15.00(1) 13.00(1) |
| UNID. MESOPLODONT (MESOPLODON SP.) | 51 | 6 | 6 | 0 1.50(6) 2.00(5) 1.80(5) |
| CUVIER'S BEAKED WHALE (ZIPHIUS CAVIROSTRIS) | 61 | 18 | 18 | 0 1.94(18) 2.06(18) 2.06(18) |
| RORQUAL (BALAENOPTERA SP.) | 70 | 18 | 17 | 1 1.72(18) 1.83(18) 1.72(18) |
| BRYDE'S WHALE (B. EDENI) | 72 | 9 | 7 | 2 2.37(9) 2.51(9) 2.39(9) |
| SEI WHALE (B. BOREALIS) | 73 | 1 | 0 | 1 0.37(1) 0.62(1) 0.50(1) |
| BLUE WHALE (B. MUSCULUS) | 75 | 4 | 4 | 0 1.75(4) 2.00(4) 1.75(4) |
| HUMPBACK WHALE (MEGAPTERA NOVAEANGLIAE) | 76 | 2 | 0 | 2 0.98(2) 1.03(2) 0.98(2) |
| UNIDENTIFIED SMALL WHALE | 78 | 27 | 25 | 2 2.50(27) 3.36(25) 2.81(25) |
| UNIDENTIFIED LARGE WHALE | 79 | 28 | 26 | 2 1.35(28) 1.51(24) 1.37(24) |
| UNIDENTIFIED CETACEAN | 96 | 5 | 5 | 0 3.20(5) 4.25(4) 3.25(4) |
| UNIDENTIFIED WHALE | 98 | 23 | 23 | 0 1.39(23) 1.84(19) 1.42(19) |

Table 6. Summary of distance searched, dolphin schools detected, and rates of encountering dolphins by observers aboard the McArthur in the eastern tropical Pacific during July 29 through December 7, 1989.

| | Distance Searched (km) | Percent Distance Searched | Number Schools Detected | Percent Schools Detected | Detection Rate (Schools / 1000 km) | S.E. Detection Rate | Days Searched | Number ² |
|-----------------------|------------------------|---------------------------|-------------------------|--------------------------|------------------------------------|---------------------|---------------|---------------------|
| All Data | 14302 | 100 | 254 | 100 | 17.76 | 2.39 | 97 | |
| Inshore | 2139 | 15 | 33 | 13 | 15.43 | 13.57 | 17 | |
| Middle | 3697 | 26 | 74 | 29 | 20.02 | 10.86 | 25 | |
| West | 3615 | 25 | 45 | 18 | 12.45 | 6.16 | 25 | |
| South | 4852 | 34 | 102 | 40 | 21.02 | 7.50 | 33 | |
| Sea State Conditions | | | | | | | | |
| Calm | 697 | 5 | 23 | 9 | 33.01 | 126.73 | 17 | |
| Rough | 13605 | 95 | 231 | 91 | 16.98 | 2.28 | 96 | |
| Visibility Conditions | | | | | | | | |
| Good | 12664 | 89 | 226 | 89 | 17.85 | 2.78 | 96 | |
| Poor | 1638 | 11 | 28 | 11 | 17.09 | 9.84 | 63 | |
| Observers | | | | | | | | |
| 1 | 3884 | 27 | 22 | 9 | 5.66 | 1.00 | 51 | |
| 5 | 3889 | 27 | 24 | 9 | 6.17 | 2.19 | 49 | |
| 7 | 3312 | 23 | 10 | 4 | 3.02 | 1.71 | 46 | |
| 22 | 3898 | 27 | 11 | 4 | 2.82 | 0.68 | 49 | |
| 45 | 3891 | 27 | 30 | 12 | 7.71 | 2.73 | 49 | |
| 51 | 3832 | 27 | 18 | 7 | 4.70 | 1.79 | 51 | |
| 55 | 3193 | 22 | 26 | 10 | 8.14 | 4.20 | 44 | |
| 56 | 3307 | 23 | 27 | 11 | 8.16 | 2.70 | 46 | |
| 67 | 3278 | 23 | 16 | 6 | 4.88 | 1.93 | 46 | |
| 71 | 3146 | 22 | 25 | 10 | 7.95 | 3.20 | 44 | |
| 72 | 169 | 1 | 1 | 0 | 5.92 | 6 | 44 | |
| 73 | 3195 | 22 | 14 | 6 | 4.38 | 1.00 | 44 | |
| | 3898 | 27 | 30 | 12 | 7.70 | 2.69 | 51 | |

Table 6. (continued)

| Teams ³ | Distance Searched (km) | Percent Distance Searched | Number Schools Detected | Percent Schools Detected | Detection Rate (Schools/ 1000 km) | S.E. | Number ² Days Searched |
|--------------------|------------------------|---------------------------|-------------------------|--------------------------|-----------------------------------|-------|-----------------------------------|
| Team 1 | 3879 | 27 | 70 | 28 | 18.05 | 7.75 | 51 |
| Team 2 | 3883 | 27 | 65 | 26 | 16.74 | 6.36 | 49 |
| Team 3 | 3193 | 22 | 67 | 26 | 20.98 | 14.04 | 44 |
| Team 4 | 3307 | 23 | 52 | 20 | 15.72 | 5.20 | 46 |

¹Numbers may not add precisely due to rounding.

²Day included in tally of searching effort if variable occurred during any part of the day.

³Team 1 members were observers 1, 51, 74; Team 2 members were observers 5, 22, 45; Team 3 members were observers 55, 71, 73; and Team 4 members were observers 7, 56, 67. 39km of trackline was searched when either both or neither of the team leaders were on duty and is not used for team analysis.

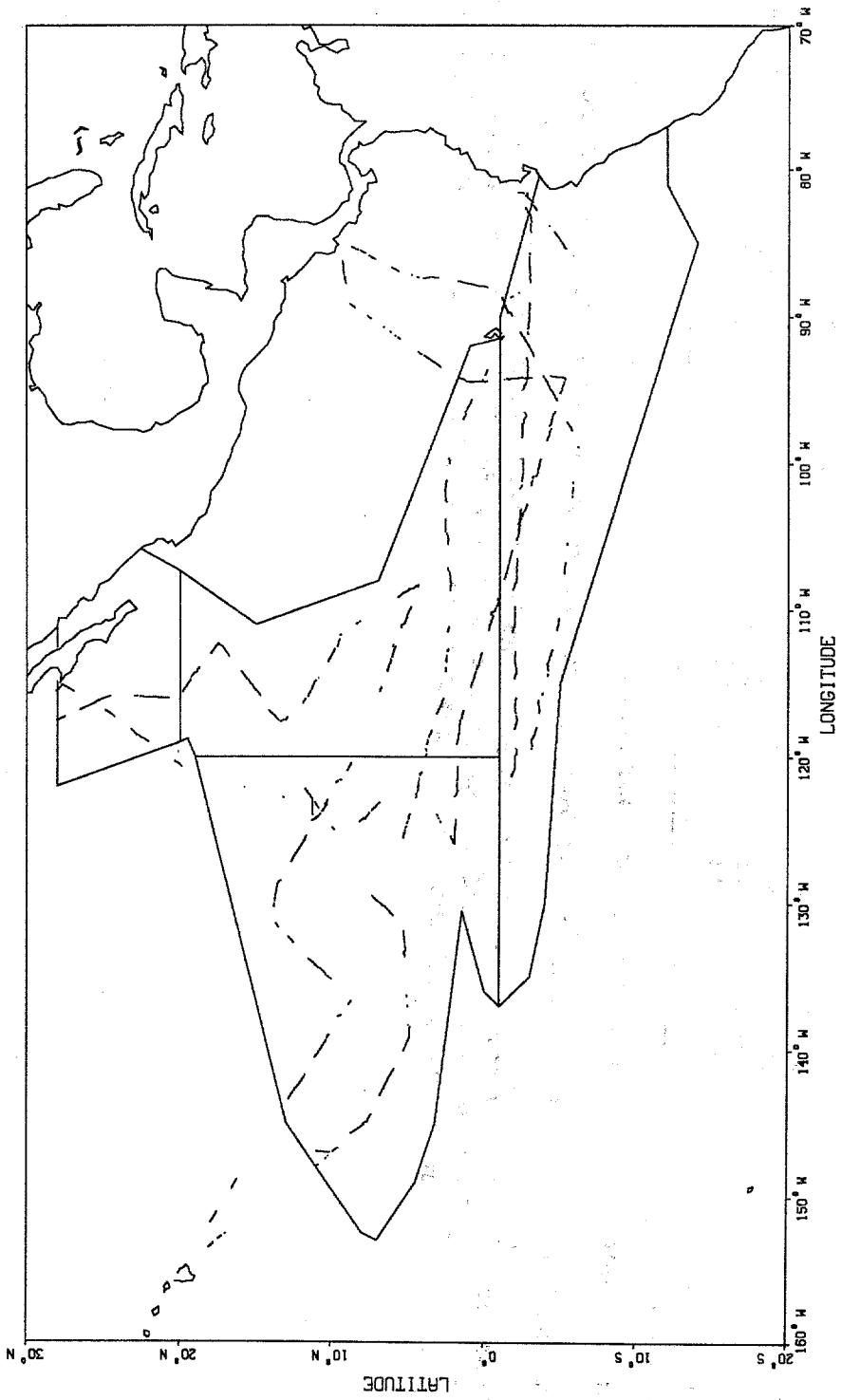


Figure 1. Tracklines surveyed by the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

**RESEARCH SHIP
MARINE MAMMAL
DAILY EFFORT RECORD**

| SERIES # | LEG # | START OF LEG | | | | | | POSITION: ONE OR MORE PER SERIES | | | | | | OBSERVER POSITION | | | | | | | | |
|----------|-------|--------------|-----------------------------|------------------|------------------|-----------------|------------------|----------------------------------|-----------------|-----------------------------|---------------------|-----|-----------|-------------------|------------|-------------|------|----|----|----|----|----|
| | | TIME | SURFACE TEMP. °F & 10ths | HORZ. DIA. MM | VERT. DIA. MM | WIND DIR. °T | SWELL DIR. °T | SWELL HEIGHT FT. | END OF LEG TIME | VESSEL SPEED KTS & 10ths | COMPASS COUSE °T | N/S | LONGITUDE | E/W | LEFT BINO. | RIGHT BINO. | REC. | | | | | |
| 1 | 1 | 11:13:15 | 59.15 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 2 | 2 | 11:14:16 | 59.16 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 3 | 3 | 11:15:17 | 59.17 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 4 | 4 | 11:16:18 | 59.18 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 5 | 5 | 11:17:19 | 59.19 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 6 | 6 | 11:18:20 | 59.20 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 7 | 7 | 11:19:21 | 59.21 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 8 | 8 | 11:20:22 | 59.22 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 9 | 9 | 11:21:23 | 59.23 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 10 | 10 | 11:22:24 | 59.24 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 11 | 11 | 11:23:25 | 59.25 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 12 | 12 | 11:24:26 | 59.26 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 13 | 13 | 11:25:27 | 59.27 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 14 | 14 | 11:26:28 | 59.28 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 15 | 15 | 11:27:29 | 59.29 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 16 | 16 | 11:28:30 | 59.30 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 17 | 17 | 11:29:31 | 59.31 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 18 | 18 | 11:30:32 | 59.32 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 19 | 19 | 11:31:33 | 59.33 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 20 | 20 | 11:32:34 | 59.34 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 21 | 21 | 11:33:35 | 59.35 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 22 | 22 | 11:34:36 | 59.36 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 23 | 23 | 11:35:37 | 59.37 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 24 | 24 | 11:36:38 | 59.38 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 25 | 25 | 11:37:39 | 59.39 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 26 | 26 | 11:38:40 | 59.40 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 27 | 27 | 11:39:41 | 59.41 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 28 | 28 | 11:40:42 | 59.42 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 29 | 29 | 11:41:43 | 59.43 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 30 | 30 | 11:42:44 | 59.44 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 31 | 31 | 11:43:45 | 59.45 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 32 | 32 | 11:44:46 | 59.46 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 33 | 33 | 11:45:47 | 59.47 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 34 | 34 | 11:46:48 | 59.48 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 35 | 35 | 11:47:49 | 59.49 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 36 | 36 | 11:48:50 | 59.50 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 37 | 37 | 11:49:51 | 59.51 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 38 | 38 | 11:50:52 | 59.52 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 39 | 39 | 11:51:53 | 59.53 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 40 | 40 | 11:52:54 | 59.54 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 41 | 41 | 11:53:55 | 59.55 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 42 | 42 | 11:54:56 | 59.56 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 43 | 43 | 11:55:57 | 59.57 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 44 | 44 | 11:56:58 | 59.58 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 45 | 45 | 11:57:59 | 59.59 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 46 | 46 | 11:58:00 | 59.60 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 47 | 47 | 11:59:01 | 59.61 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 48 | 48 | 12:00:02 | 59.62 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 49 | 49 | 12:01:03 | 59.63 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 50 | 50 | 12:02:04 | 59.64 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 51 | 51 | 12:03:05 | 59.65 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 52 | 52 | 12:04:06 | 59.66 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 53 | 53 | 12:05:07 | 59.67 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 54 | 54 | 12:06:08 | 59.68 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 55 | 55 | 12:07:09 | 59.69 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 56 | 56 | 12:08:10 | 59.70 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 57 | 57 | 12:09:11 | 59.71 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 58 | 58 | 12:10:12 | 59.72 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 59 | 59 | 12:11:13 | 59.73 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 60 | 60 | 12:12:14 | 59.74 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 61 | 61 | 12:13:15 | 59.75 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 62 | 62 | 12:14:16 | 59.76 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 63 | 63 | 12:15:17 | 59.77 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 64 | 64 | 12:16:18 | 59.78 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 65 | 65 | 12:17:19 | 59.79 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 66 | 66 | 12:18:20 | 59.80 | 22 | 23 | 24 | 26 | 28 | 31 | 34 | 36 | 40 | 43 | 46 | 50 | 51 | 56 | 57 | 59 | 61 | 63 | 64 |
| 67 | 67 | 12:19:21 | 59.81</td | | | | | | | | | | | | | | | | | | | |

ENDING COUPES

FOG/BAIN CODES

NO FOG OR RAIN = 1
FOG = 2

FOG = 2
RAIN = 3
FOG AND RAIN = 4

P. 2

NOTES.

9 = LEG ENDS DUE TO CHANGE IN OBSERVER POSITIONS

Figure 2. Research ship marine mammal daily effort record.

| CRUISE # | DATE | | | SIGHT # | SERIES # | LEG # | CARD # |
|----------|------|-------|-----|---------|----------|-------|--------|
| | YEAR | MONTH | DAY | | | | 0 1 |
| 1 | 5 | 7 | 9 | 11 | 13 | 15 | 17 |

**RESEARCH SHIP
MARINE MAMMAL
SIGHTING RECORD**

| TIME | SIGHTING CUE | | | ENVIR. COND. AT CUE | | | | POSITION AT TIME OF CUE | | | | OBSERVER POSITIONS | | | | | | | | | |
|------|--------------|------------|-------------------|---------------------|-------|----------------------|----------|-------------------------|----------|-----|-----------|--------------------|-------------|-------------------|----------|------------|-------------|-----|-----------------|----|----|
| | CUE CO. | SIGHT CODE | BEARING FROM SHIP | DISTANCE nm & 10ths | BLW ° | SURF TEMP °F & 10ths | HORZ SUN | VERT SUN | LATITUDE | N S | LONGITUDE | E W | SOURCE CODE | TIME M.M. SIGHTED | BIRD Y N | LEFT BINO. | RIGHT BINO. | REC | M M DETECTED BY | | |
| 19 | 23 | 24 | 25 | 28 | 31 | 32 | 35 | 37 | 39 | | 43 | 44 | | 49 | 50 | 51 | 55 | 56 | 58 | 60 | 62 |

OBSERVER 1

| OBS. CODE | SCHOOL SIZE ESTIMATE | | | CARD # | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|------|-------|--------|---------------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
| | BEST | HIGH | LOW | | SPECIES 1 % | SP 1 CODE | SPECIES 2 % | SP 2 CODE | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | SP 4 CODE |
| | | | | 0 2 | | | | | | | | |
| 64 | 66 | 70 | 74 | 77 | 17 | 19 | 22 | 24 | 27 | 29 | 32 | 34 |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

OBSERVER 2

| OBS. CODE | SCHOOL SIZE ESTIMATE | | | SPECIES 1 % | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|------|-------|-------------|---------------------|-------------|-----------|-------------|-----------|-------------|-----------|----|
| | BEST | HIGH | LOW | | SP 1 CODE | SPECIES 2 % | SP 2 CODE | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | SP 4 CODE | |
| | | | | 49 | 53 | 56 | 58 | 61 | 63 | 66 | 68 | 71 |
| 39 | 41 | 45 | 49 | 53 | 56 | 58 | 61 | 63 | 66 | 68 | 71 | |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

OBSERVER 3

| OBS. CODE | SCHOOL SIZE ESTIMATE | | | SPECIES 1 % | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|--------|-------|-------------|---------------------|-------------|-----------|-------------|-----------|-------------|-----------|----|
| | BEST | CARD # | HIGH | LOW | SP 1 CODE | SPECIES 2 % | SP 2 CODE | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | SP 4 CODE | |
| | | | | 0 3 | | | | | | | | |
| 73 | 75 | 78 | 17 | 19 | 23 | 27 | 30 | 32 | 35 | 37 | 40 | 42 |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

OBSERVER 4

| OBS. CODE | SCHOOL SIZE ESTIMATE | | | SPECIES 1 % | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|------|-------|-------------|---------------------|-------------|-----------|-------------|-----------|-------------|--------|-----------|
| | BEST | HIGH | LOW | | SP 1 CODE | SPECIES 2 % | SP 2 CODE | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | CARD # | SP 4 CODE |
| | | | | 53 | 57 | 61 | 64 | 66 | 69 | 71 | 74 | 76 |
| 47 | 49 | 53 | 57 | 61 | 64 | 66 | 69 | 71 | 74 | 76 | 78 | 17 |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

OBSERVER 5

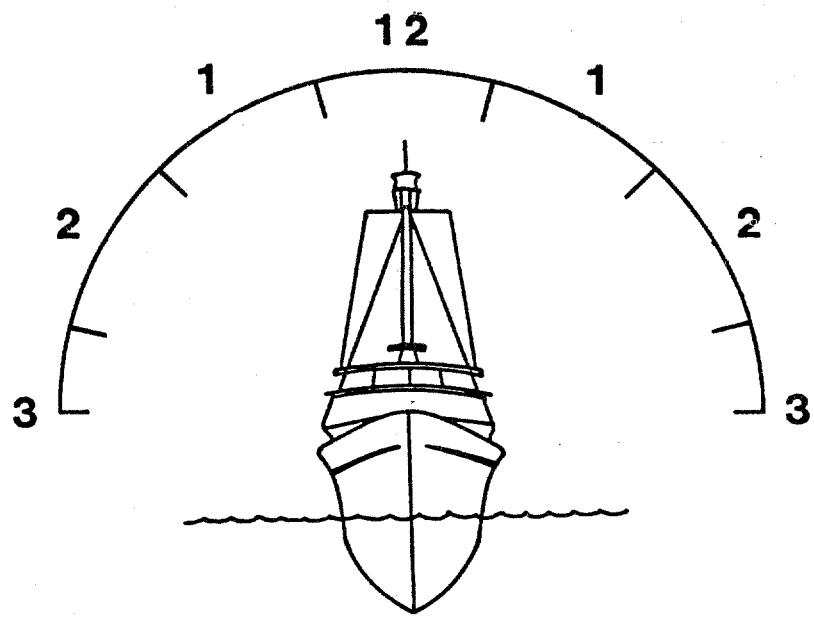
| OBS. CODE | SCHOOL SIZE ESTIMATE | | | SPECIES 1 % | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|------|-------|-------------|---------------------|-------------|-----------|-------------|-----------|-------------|-----------|--|
| | BEST | HIGH | LOW | | SP 1 CODE | SPECIES 2 % | SP 2 CODE | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | SP 4 CODE | |
| | | | | 31 | 35 | 38 | 40 | 43 | 45 | 50 | 53 | |
| 23 | 27 | 31 | 35 | 38 | 40 | 43 | 45 | 48 | 50 | 53 | | |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

OBSERVER 6

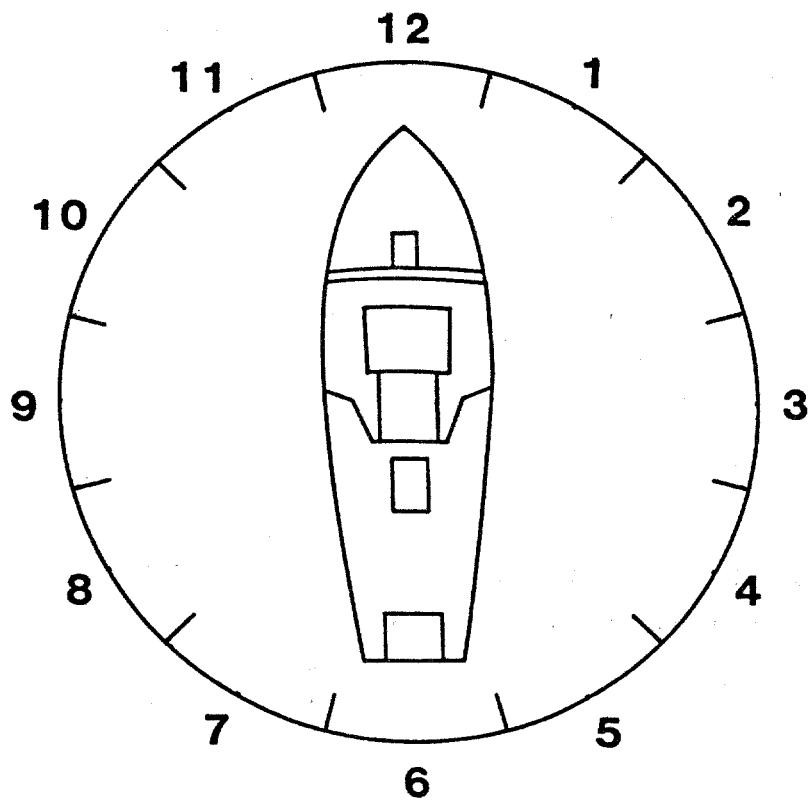
| OBS. CODE | SCHOOL SIZE ESTIMATE | | | SPECIES 1 % | SPECIES PROPORTIONS | | | | | | | |
|-----------|----------------------|------|-------|-------------|---------------------|-------------|-----------|--------|-------------|-----------|-------------|-----------|
| | BEST | HIGH | LOW | | SP 1 CODE | SPECIES 2 % | SP 2 CODE | CARD # | SPECIES 3 % | SP 3 CODE | SPECIES 4 % | SP 4 CODE |
| | | | | 65 | 69 | 72 | 74 | 77 | 78 | 17 | 19 | 22 |
| 56 | 57 | 61 | 65 | 69 | 72 | 74 | 77 | 78 | 17 | 19 | 22 | 24 |
| S P 1 | | | S P 2 | | | S P 3 | | | S P 4 | | | |

Figure 3. Research ship marine mammal sighting record.

NOAA FORM 88-105



VERTICAL SUN POSITION



HORIZONTAL SUN POSITION

Figure 4. Vertical and horizontal sun position categories.

Figure 5. Research ship sighting continuation record.

| CRUISE # | DATE YEAR | MONTH | DAY | SIGHT # | SERIES # | LEG # | OBS. CODE |
|-------------|--------------|-------|-----|------------|-------------|----------|--------------|
| 1 | 1 | 4 | 6 | 8 | 10 | 12 | 14 |
| | | | | | | | 16 |

SIGHTING SUMMARY

LIST ALL DIAGNOSTIC FEATURES OBSERVED
(INCLUDING ESTIMATED BODY LENGTH)

| SKETCH FEATURES OF ANIMALS SIGHTED | | | | | | | |
|------------------------------------|--|--|--|--|--|--|--|
| | | | | | | | |

BEHAVIOR – (DESCRIBE AGGREGATION, MOVEMENT, BOW AND STERN RIDING, BLOWS, ETC.)

MOVEMENT OF SCHOOL: SPEED (KTS)

DIRECTION (RELATIVE TO BOW)

ASSOCIATED ANIMALS – (INCLUDE NUMBER AND SPECIES OF BIRDS)

PHOTOS: ROLL # _____

FRAME(S): # _____

TOTAL
TIME OF
OBSERVATION

ENVIR. COND.
(RAIN, OVERCAST,
FOG, CHOPPY)

CLOSEST
DISTANCE OF
OBSERVATION

AMT. OF TIME
AT CLOSEST
DISTANCE

TAGS
ASSOCIATED
WITH SIGHTING

METHOD OF
OBSERVATION
(EYE, 7x, 10x, 25x)

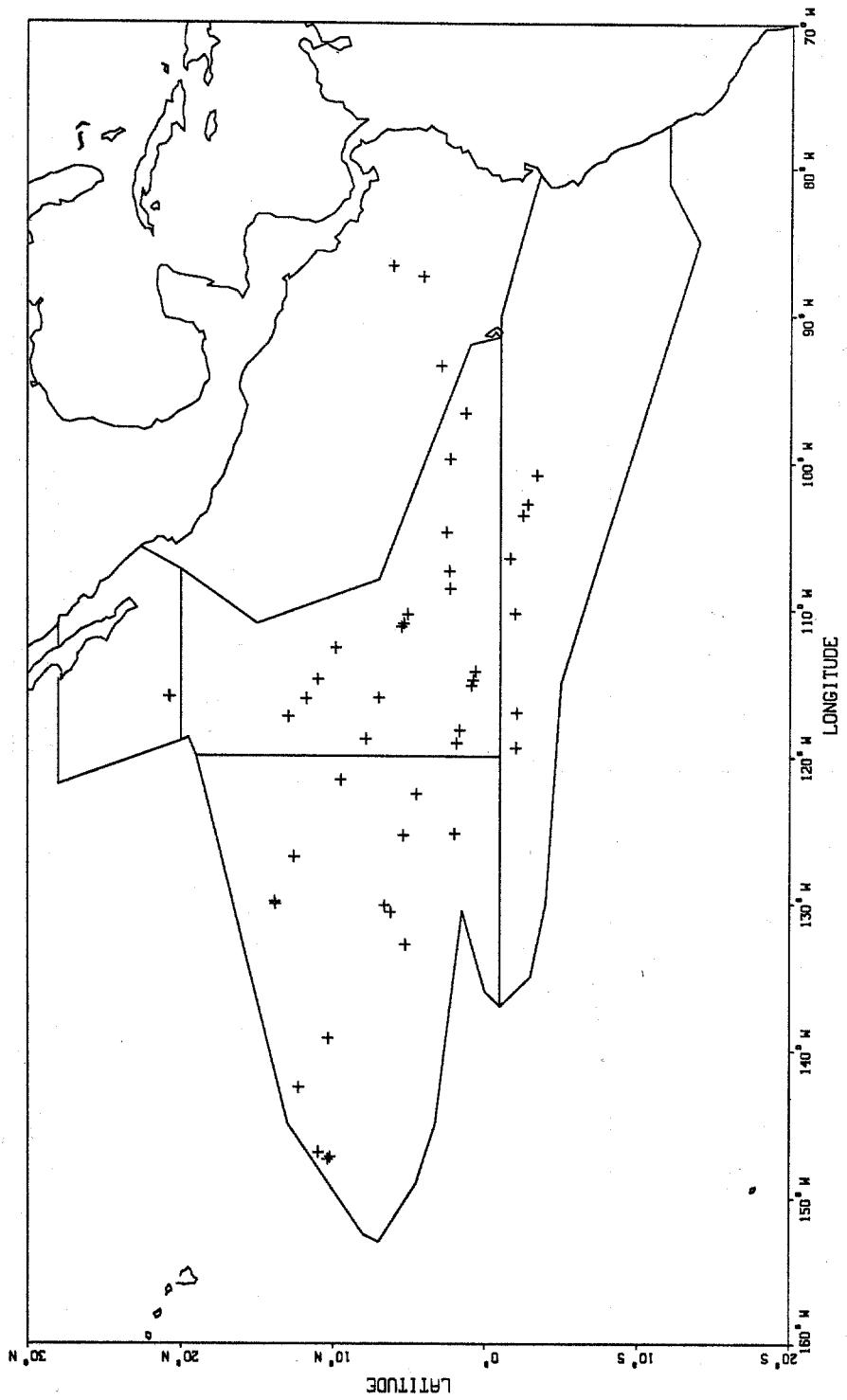


Figure 6. Offshore spotted dolphins (+) detected from board the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

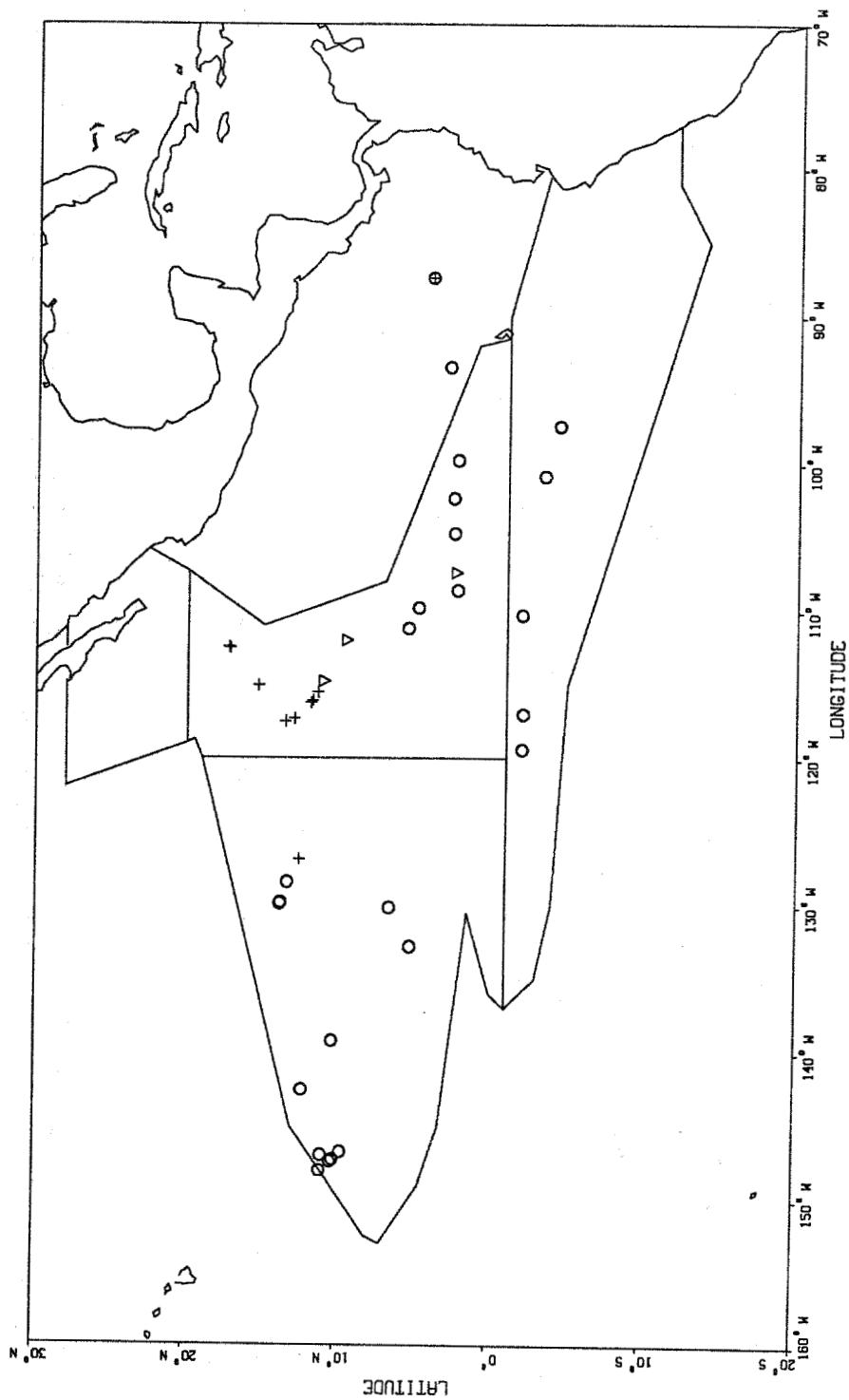


Figure 7. Eastern (+), whitebelly (o) and unidentified (v) spinner dolphins detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

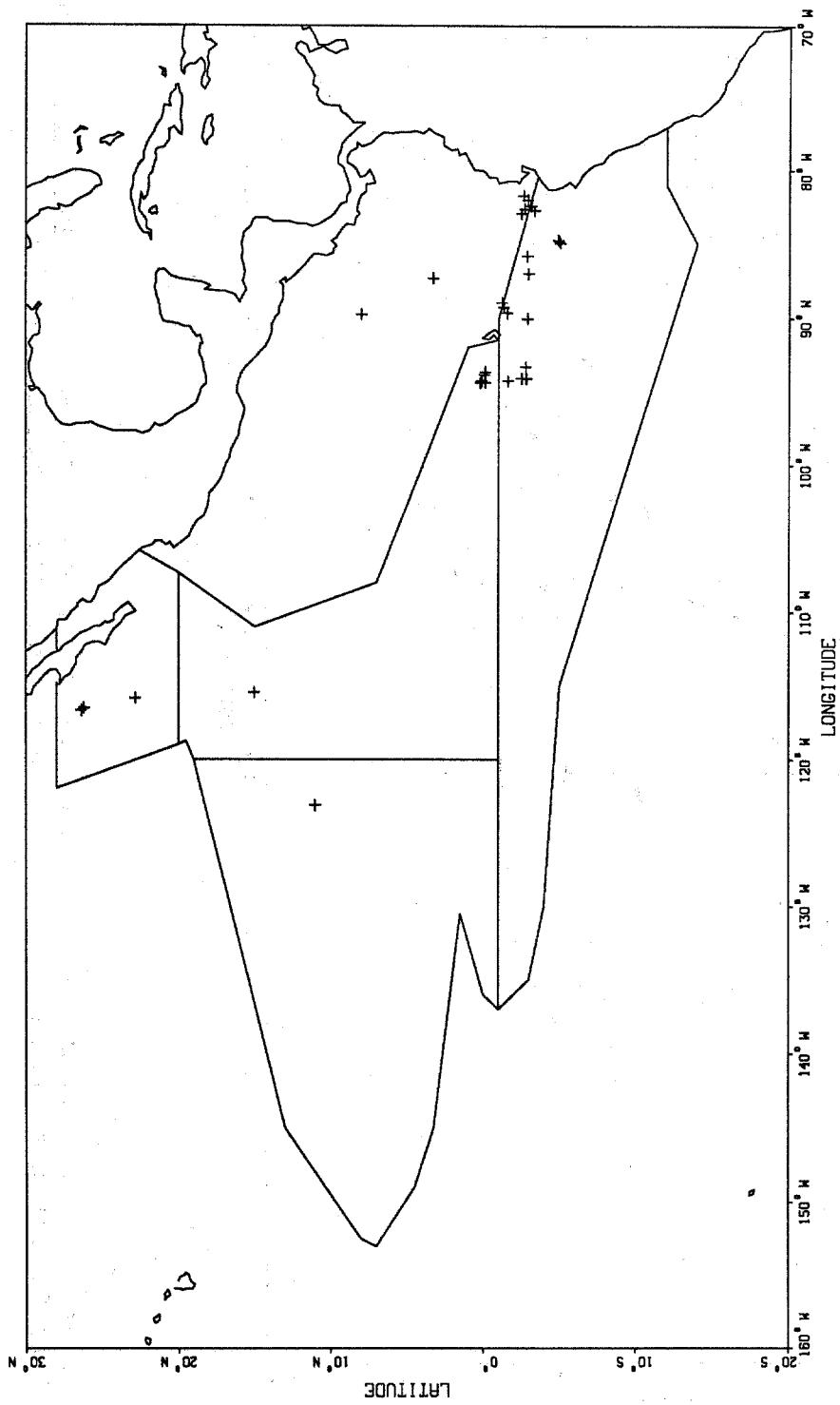


Figure 8. Common dolphins (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

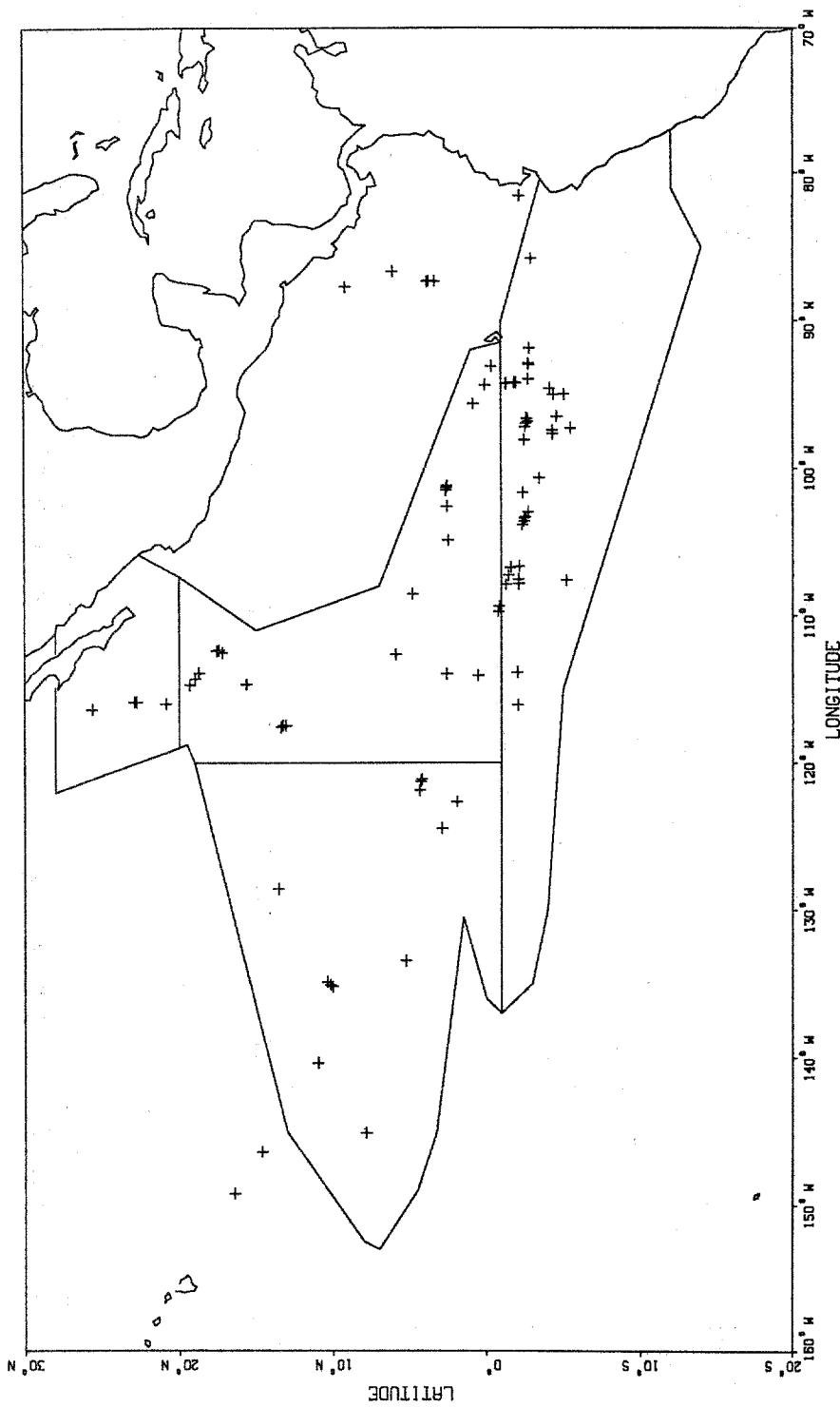


Figure 9. Striped dolphins (+) detected from aboard the NOAA ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

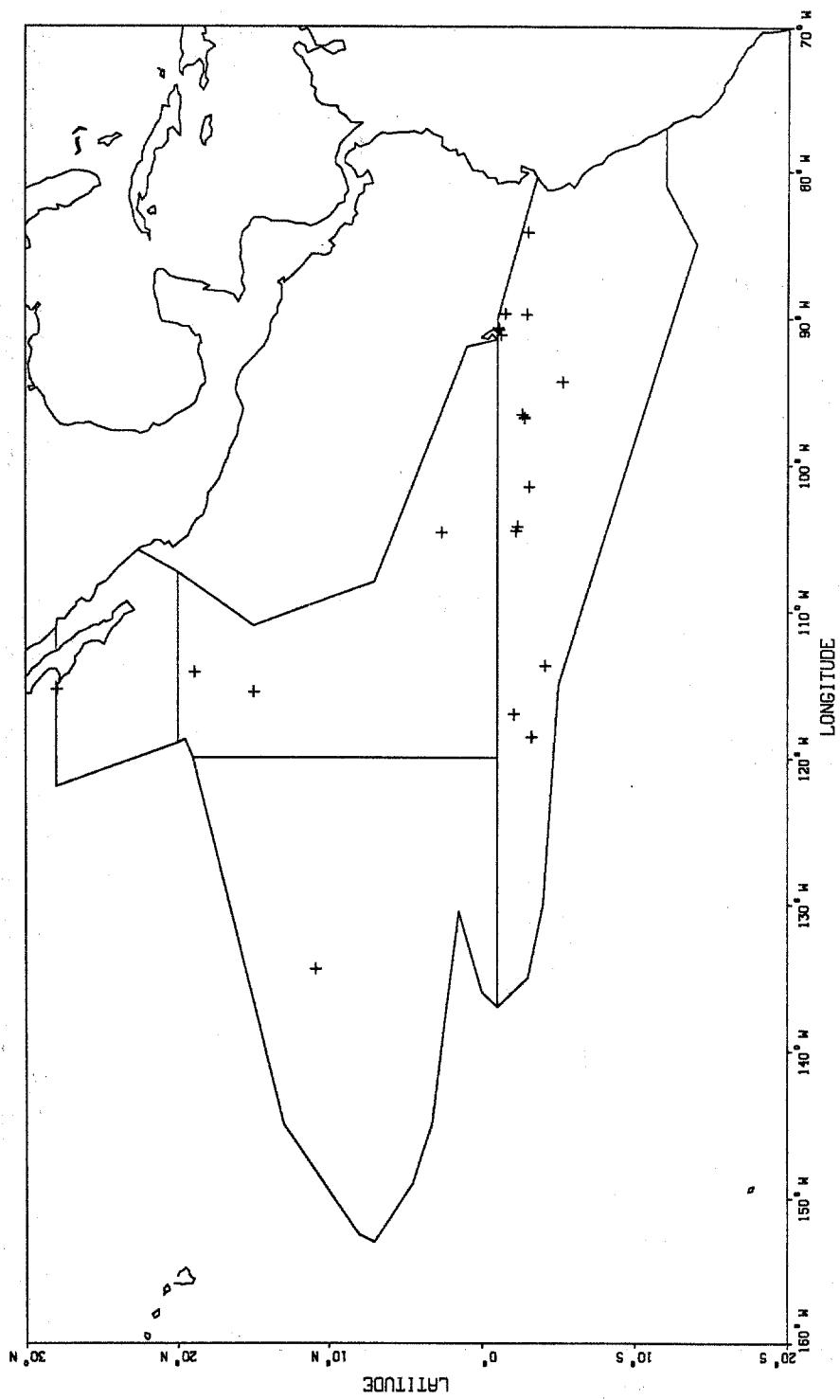


Figure 10. Bottlenose dolphins (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

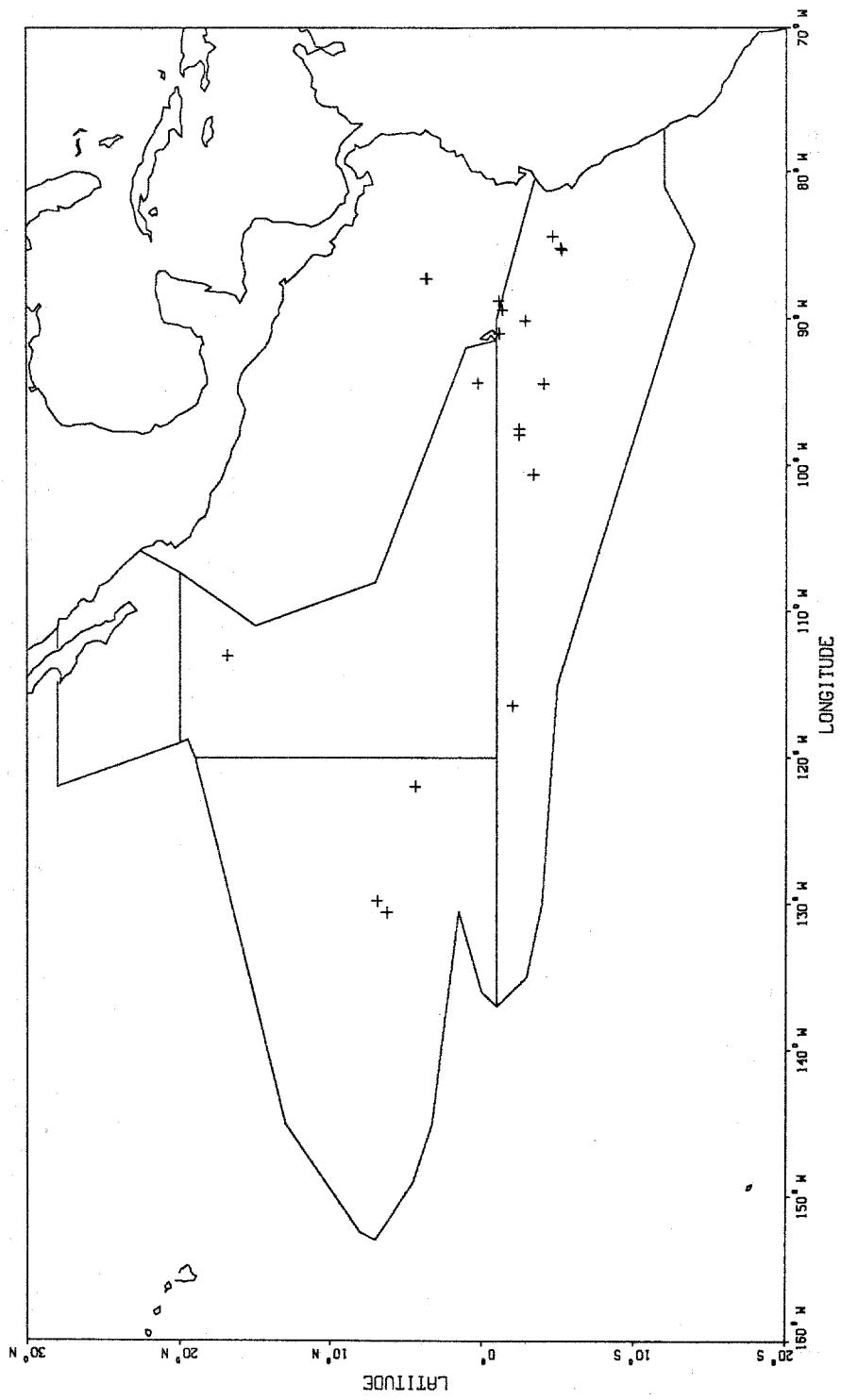


Figure 11. Risso's dolphins (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

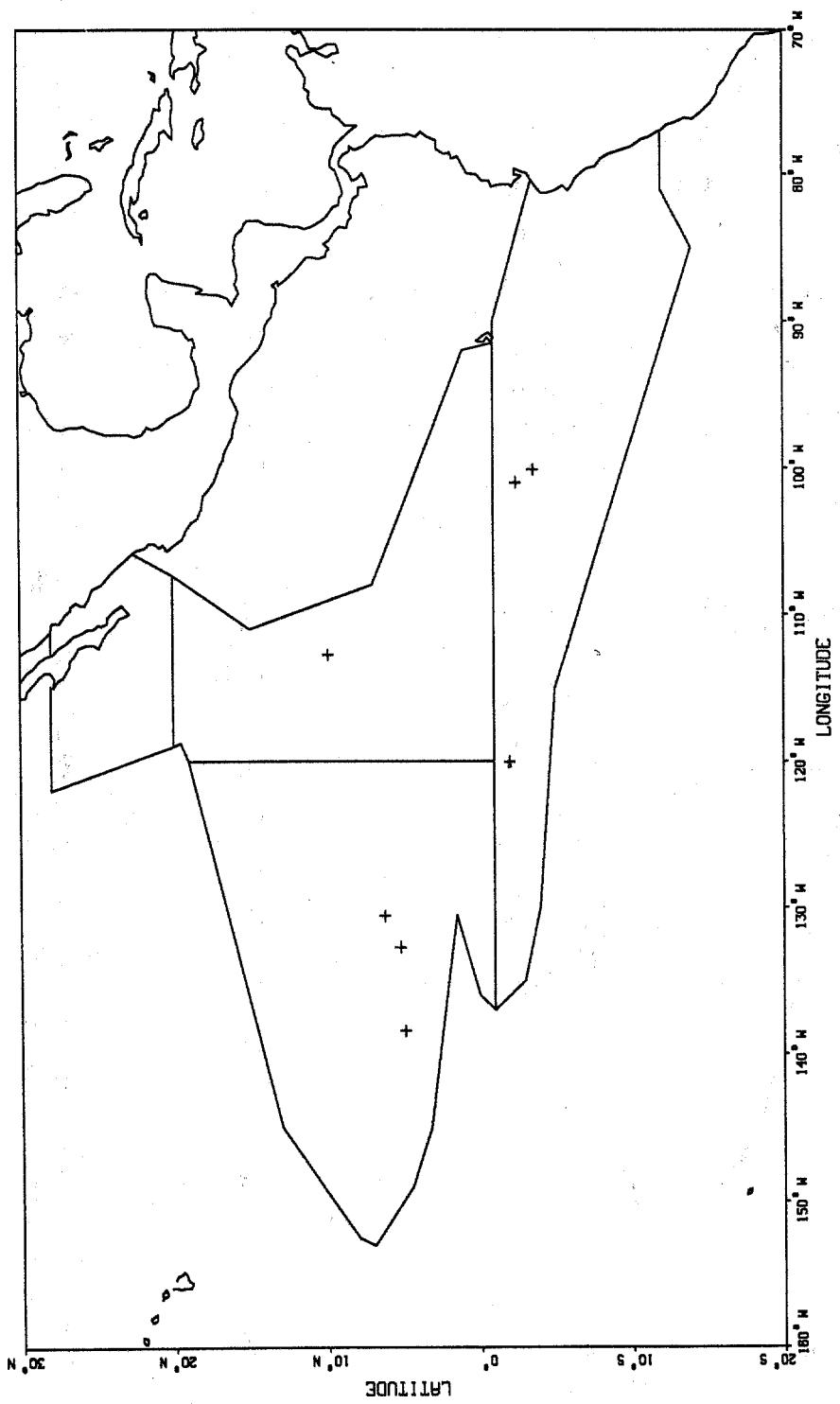


Figure 12. Rough-toothed dolphins (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

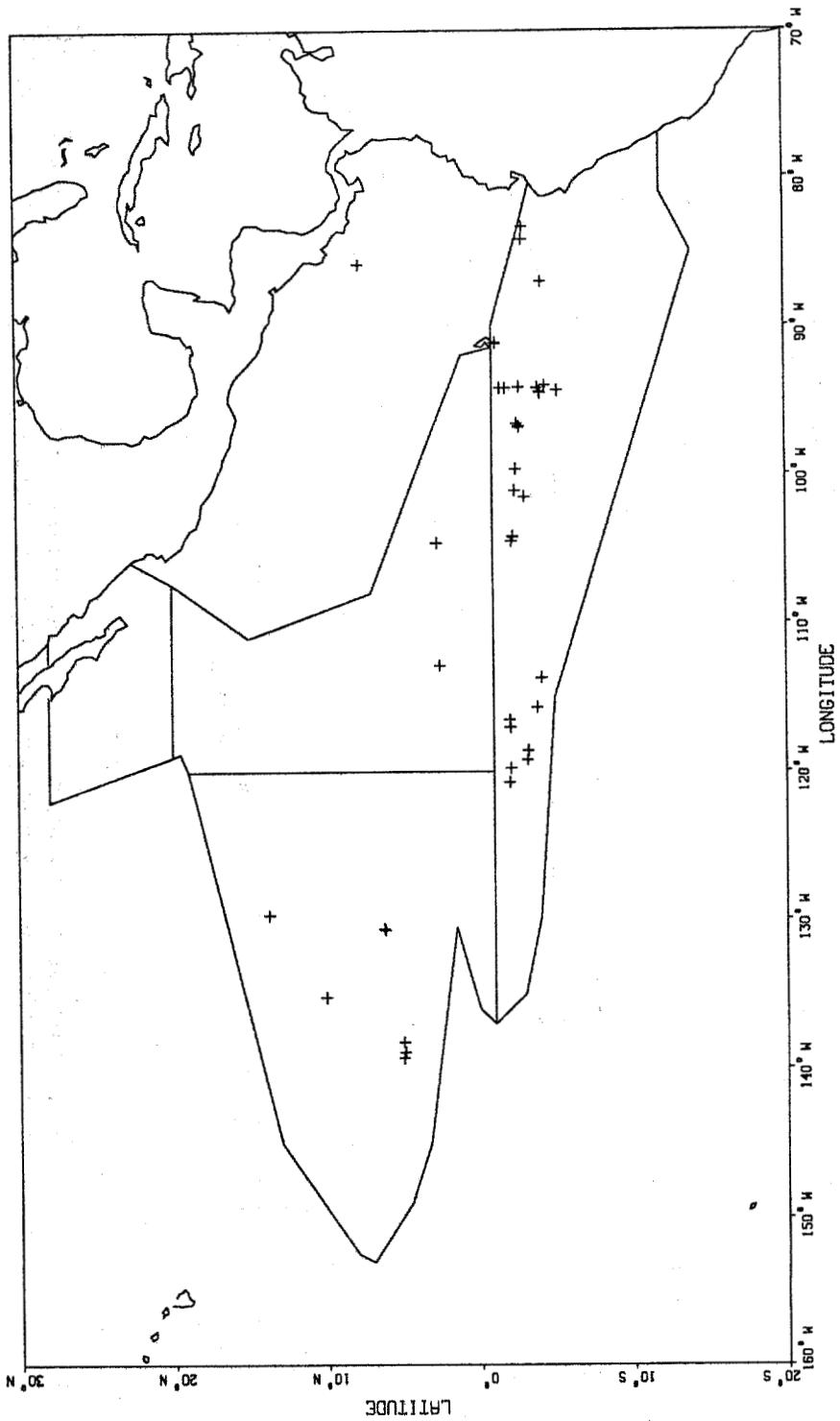


Figure 13. Pilot whales (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

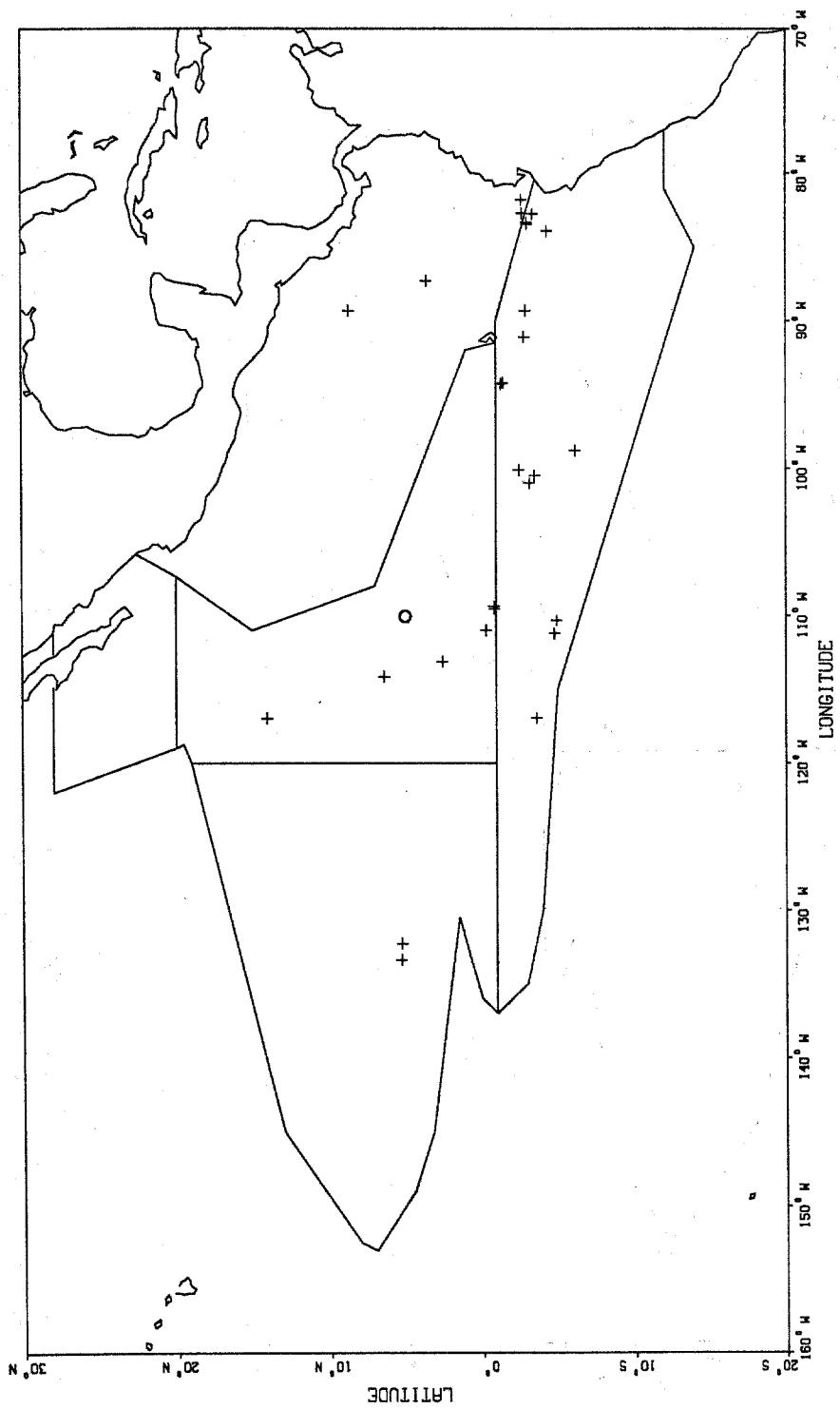


Figure 14. Sperm (+) and dwarf sperm (O) whales detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

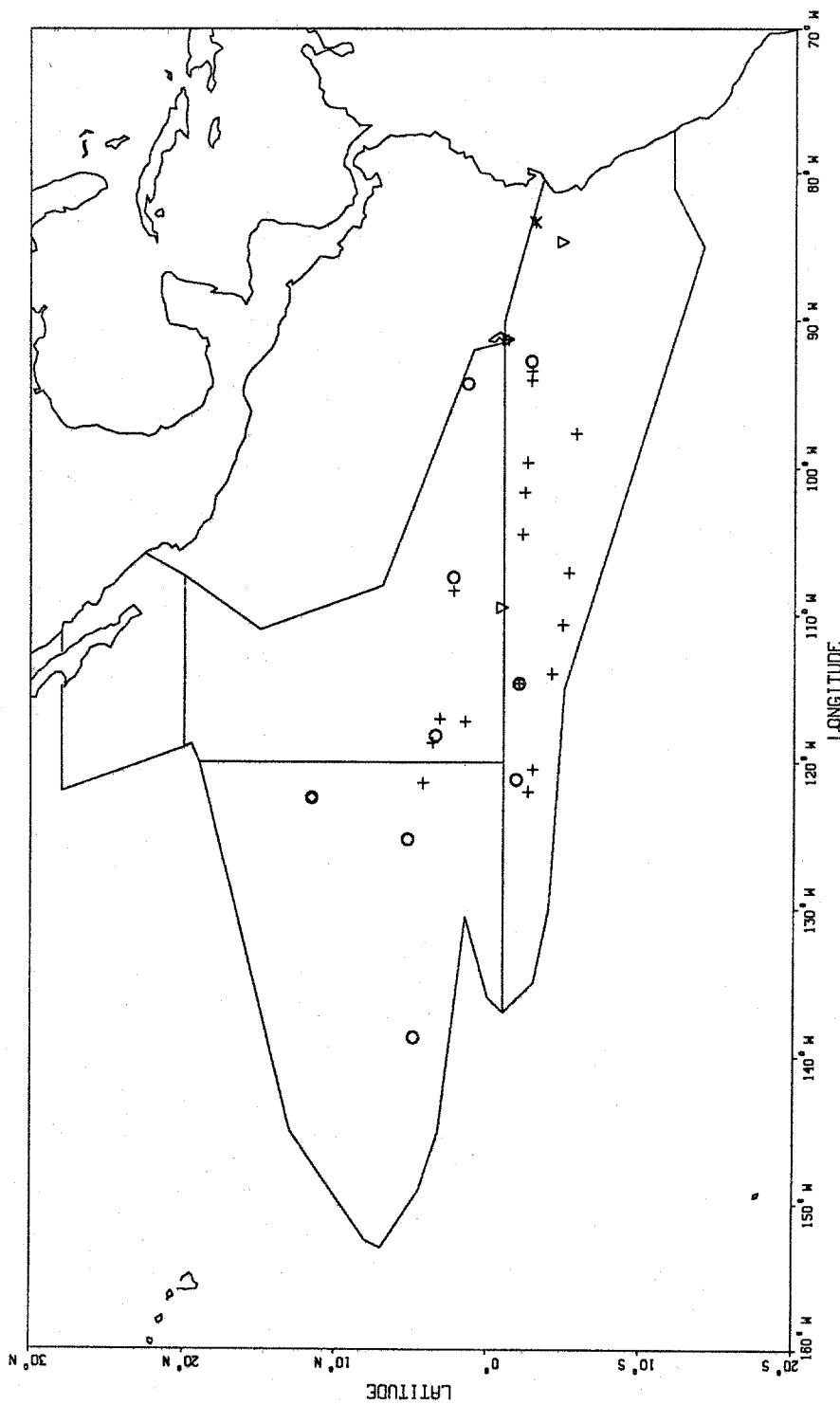


Figure 15. Unidentified rorquals (+), Bryde's (o), blue (∇), humpback (*) and sei (\diamond) whales detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

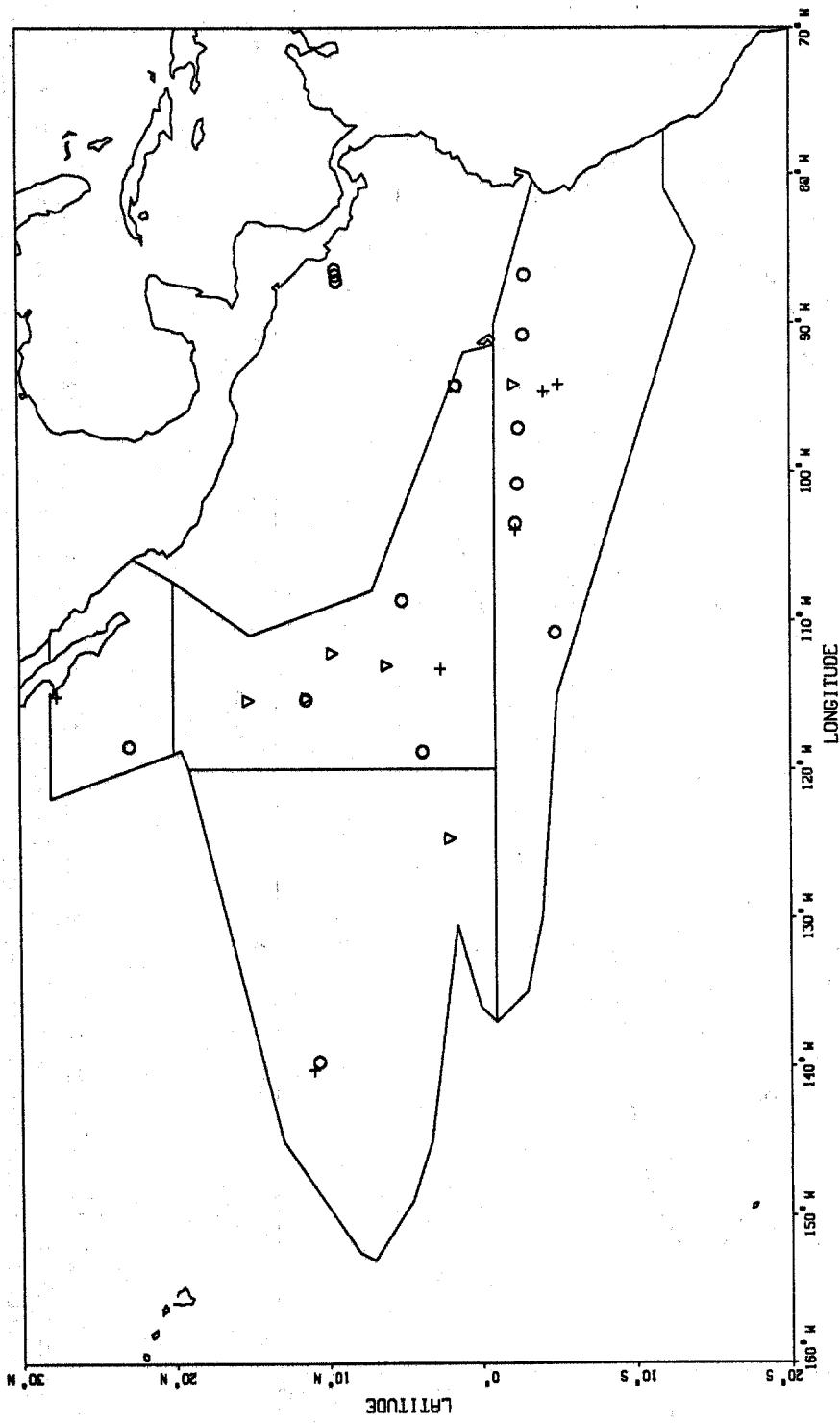


Figure 16. Unidentified beaked (+), Cuvier's beaked (O), mesoplodon (▽), and bottlenose (□) whales detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

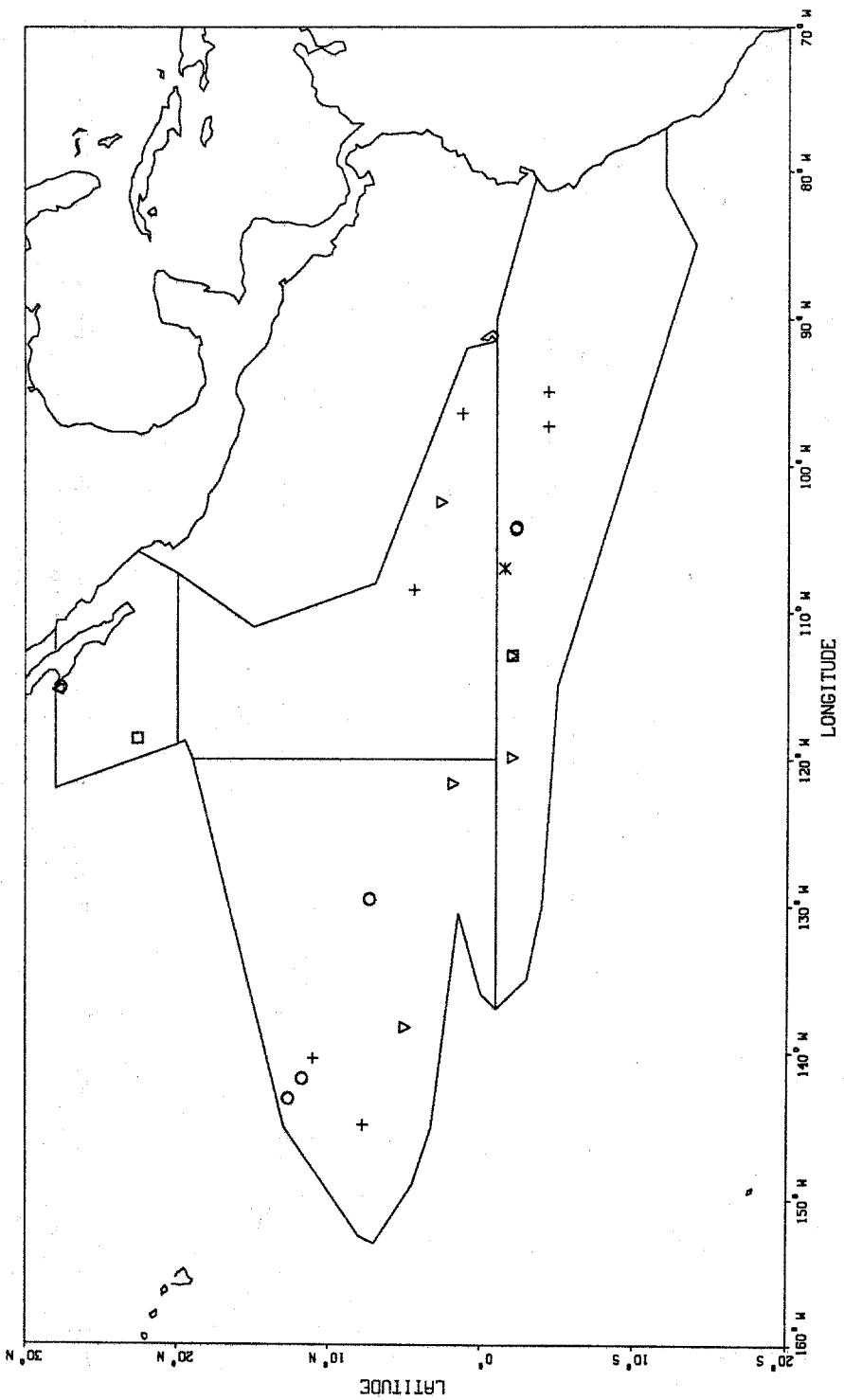


Figure 17. Killer (+) and false killer (○) whales, Fraser's dolphins (▽), melon-headed (□) and pygmy killer (×) whales and Pacific white-sided (Δ) dolphins detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

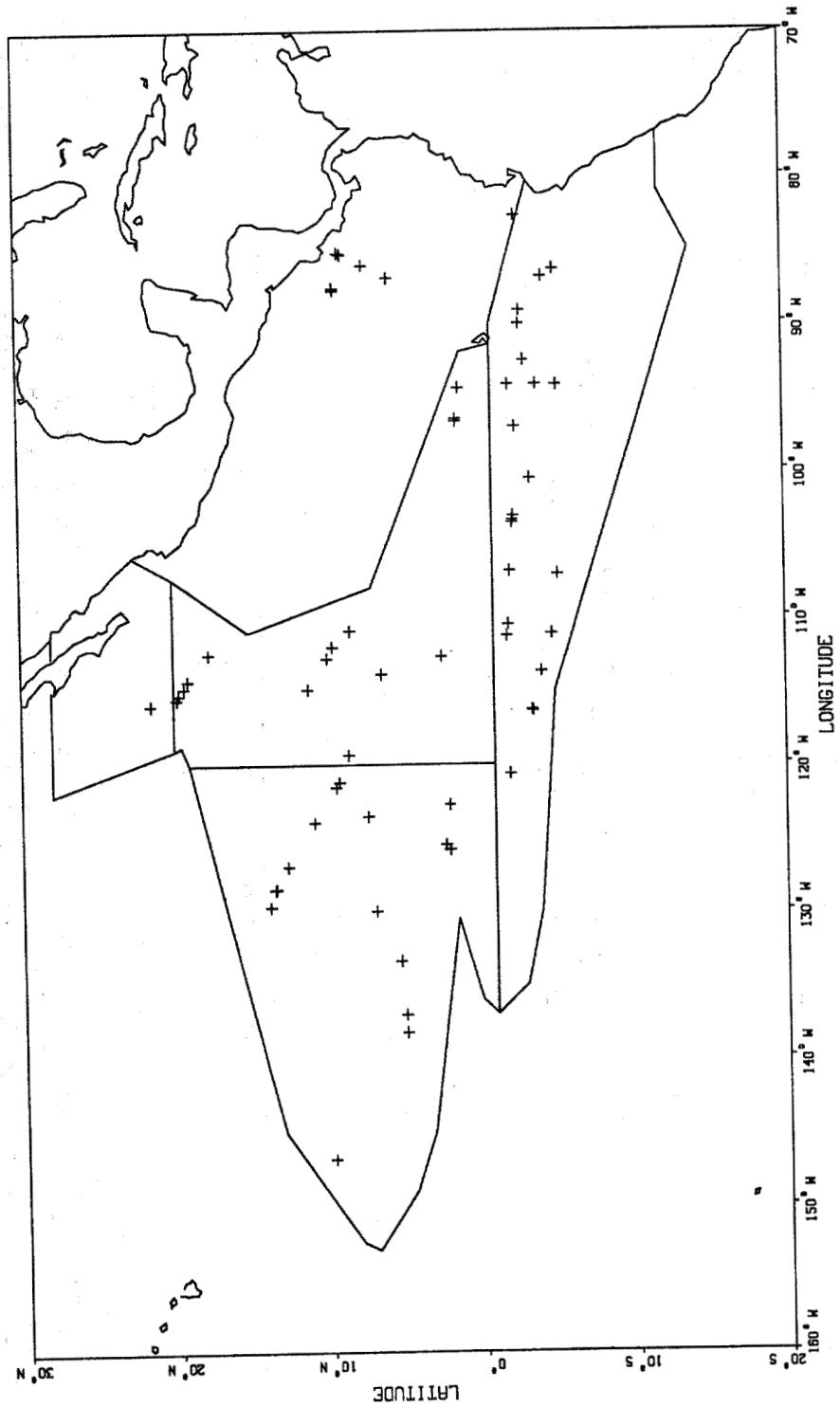


Figure 18. Unidentified dolphins (+) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

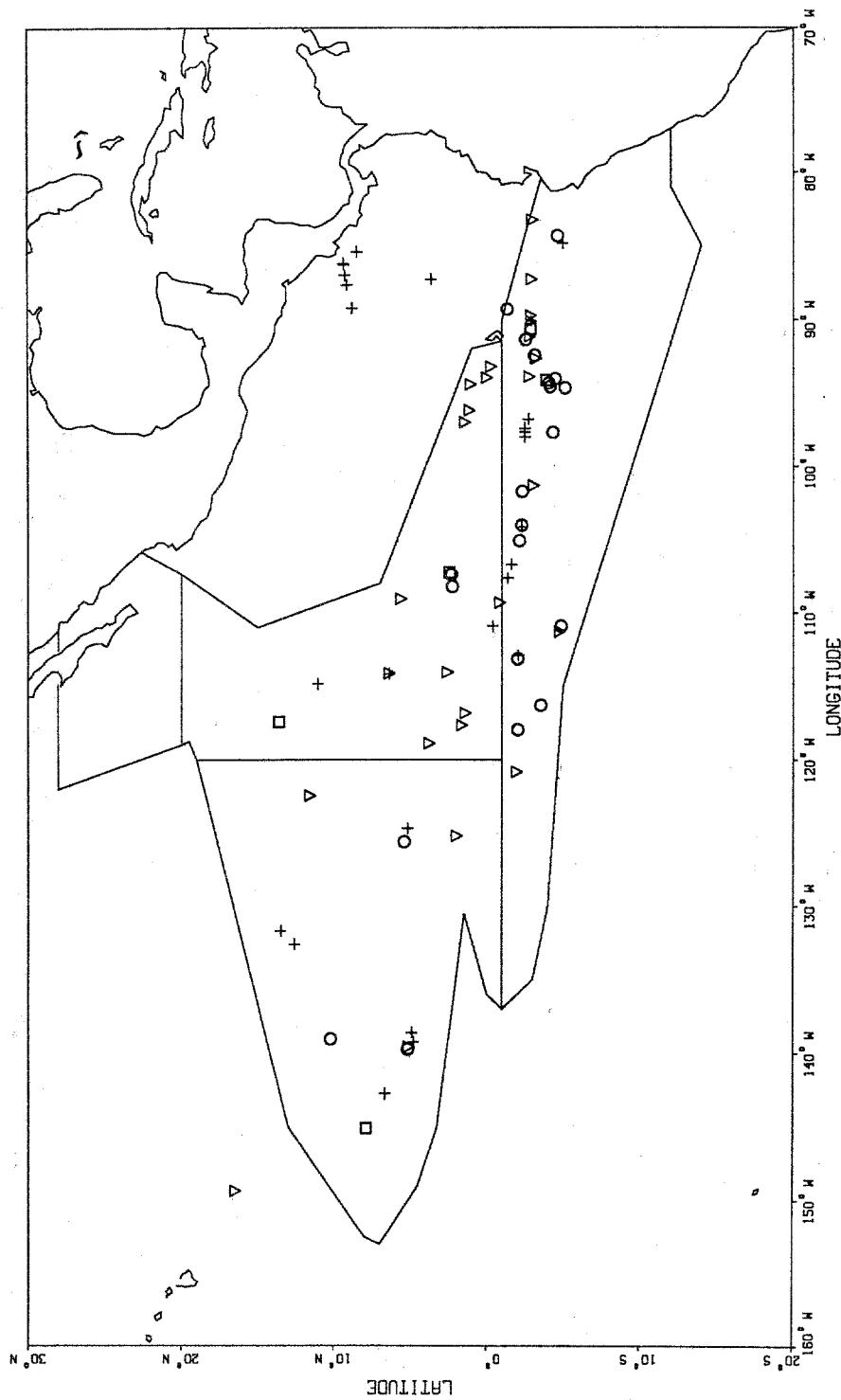


Figure 19. Unidentified small whales (O), unidentified whales (+), unidentified large whales (▽) and unidentified cetaceans (□) detected from aboard the NOAA Ship McArthur from July 29 through December 7, 1989, in the eastern tropical Pacific.

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